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ABSTRACT

This kit provides 24 essays on book repair: (1) "Conservation at the American Philosophical Society: An Institutional Profile in 1992" (H. Kyle); (2) "The Book Repair Program at Brigham Young University: An Institutional Profile" (R. Silverman); (3) "Book Repair and Conservation: Conservation Center for Art and Historic Artifacts" (G. Ruzicka); (4) "Cornell University: The Department of Preservation and Conservation. Outline of Development" (S. Zachary); (5) "Emory University Libraries Preservation Office" (A. Frellsen); (6) "Institutional Profile: Julia Rogers Library, Goucher College" (S. Roby and E. Cunningham); (7) "Harvard University Widener Library Conservation Services: Institutional Profile" (N. Schrock and D. Moore); (8) "Indiana University Libraries: Institutional Profile" (J. Burgess); (9) "The Johns Hopkins University Milton S. Eisenhower Library Preservation Program" (R. A. Sinclair); (10) "Metropolitan Toronto Reference Library" (J. G. Wellheiser); (11) "Profile for the Nebraska State Historical Society" (C. Atwood); (12) "Preservation Activities at the New York Academy of Medicine Library" (S. Martin and E. Schlefer); (13) "The Library of the New York Botanical Garden: Basic Collection Preservation Care Program" (J. Reed); (14) "Collections Maintenance Activities at the New York Public Library, Research Libraries" (J. A. Martinez and M. Reeves); (15) "New York University, Elmer Holmes Bobst Library Institutional Profile" (P. De Stefano); (16) "Northwestern University Library Institutional Profile for Collections Conservation" (S. Kellar); (17) "Collections Conservation at Princeton University Libraries" (B. J. Baird); (18) "Saint Bonaventure University Preservation Department: Freidsam Memorial Library" (P. Jermann and S. M. Frakes); (19) "Stanford University Libraries Conservation Treatment Section Profile" (E. Stewart); (20) "University of Cincinnati: University Libraries Preservation Program" (T. Heidtmann); (21) "The Book Repair Program at the University of Michigan Library: An Institutional Profile" (A. Christian, A. Ridout, and L. Muir); (22) "Circulating Materials Treatment at University of Washington Libraries" (K. Leonard); (23) "Conservation Practice Carried Out on the Main Collection of the Library of the School of Library and Information Science at the University of Western Ontario" (V. Estick); and (24) "Institutional Profile: University of Wisconsin-Madison" (J. C. Dast). Flyer 190 is included. (SLD)

ED 360 956

SPEC

SYSTEMS AND PROCEDURES EXCHANGE CENTER

Kit 190

The Changing Role of Book Repair in ARL Libraries

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SYSTEMS AND PROCEDURES EXCHANGE CENTER

Flyer 190

The Changing Role of Book Repair in ARL Libraries

April 1993

INTRODUCTION

The image of the bindery, mendery, or book repair unit in research libraries is changing dramatically. Once located in an out-of-the-way corner of the building and staffed with inveterate menders and students possessing little or no formal training, book repair is beginning to be recognized for its vital contribution to the library's preservation effort. Gone is the ready acceptance that transparent adhesive tape provides an optimal solution for mending torn pages—a prime example of the proverbial stitch in time that will *cost* you nine if you aren't careful which stitch you choose!

Libraries have always repaired their collections, too often providing abundant evidence that damage occurs from the use of poor quality materials and inappropriate techniques. Damage of this sort inflates operational costs and unnecessarily adds further repair, reformatting, and replacement work to already taxed preservation programs.

In general, library conservation has been incorrectly associated exclusively with the treatment of rare and unique materials. The underlying objective of all conservation work must be to extend the useful life of *rare* and *non-rare* research material for as long as it is needed to support the goals of the library—a time-span that may be indefinite.

The New Book Repair. In the last few years, experience gleaned from rare book and paper conservation has begun to be adapted to book repair work by both library conservators and book repair technicians. Conservation principles are beginning to supersede well-intentioned but inappropriate repair practices, and chemically unstable mending materials are being replaced with more durable archival materials. The "new book repair" is sensitive to current use patterns, and balances fast, cost-effective treatments with the library's need for long-term retention.

Current Practice. The papers that comprise SPEC Kit 190, *The Changing Role of Book Repair in ARL Libraries*, are a compilation of information contributed by the institutional representatives at the 20th annual conference of the American Institute for Conservation of Historic and Artistic Works (AIC) held in June 1992 in Buffalo, NY. They are significant in that they constitute a record of that meeting and disclose, often for the first time, the historical development of many North American preservation programs and their current book repair practices. This publication also attempts to bridge a long-standing gap between the library and conservation literature, as Library Collections Conservation Discussion Group (LCCDG) simultaneously published portions of these notes in the *Book and Paper Group Annual*, a publication of the AIC.

Until this past year, no national forum has existed to encourage debate and cross-fertilization on this topic. Solutions to similar problems, of necessity, have evolved independently in conservation labs across the continent. Under the aegis of the LCCDG, book and paper conservators from 27 institutions in the US and Canada united to compare perspectives and discuss ethical and technical considerations related to book repair work. With this meeting, the preservation community formally recognized book repair's role in the national preservation effort alongside microfilming.

ISSUES AND TRENDS

An institution's investment in its holdings is not limited to an initial monetary outlay, but includes generations of decisions relating to the selection, ordering, accessioning, security, cataloging, lettering and shelving of its collection. A vital, engaged, and thoughtful book repair program is in the library's best interest for maintaining that investment.

If book repair programs are to rise to the challenge of performing sound, expeditious repairs, they will require support from the library's administration. Many repair programs today lack adequate staff, training, and professional incentives. Financial support for archival-quality supplies, machinery, tools, and program expansion are required if the program is to thrive.

Recognition that book repair, like cataloging or collection development, is integral to the library's service mission will be necessary in order to provide this fast-changing preservation activity with an environment conducive to its metamorphosis.

This Kit and Flyer was compiled and edited by Randy Silverman, Preservation Librarian, Brigham Young University, and Maria Grandinette, Head of the Conservation and Book Repair Unit, University of Michigan, Co-chairs, Library Collections Conservation Discussion Group, The American Institute for Conservation of Historic and Artistic Works, and was prepared as part of the OMS Collaborative Research/Writing Program.

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SYSTEMS AND PROCEDURES EXCHANGE CENTER

The Changing Role of Book Repair in ARL Libraries

A SPEC Kit compiled by
Randy Silverman, Brigham Young University, and
Maria Grandinette, University of Michigan

April 1993

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SYSTEMS AND PROCEDURES EXCHANGE CENTER

Kit 190

The Changing Role of Book Repair in ARL Libraries

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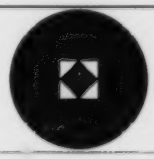
ASSOCIATION OF RESEARCH LIBRARIES  OFFICE OF MANAGEMENT SERVICES

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Conservation at the American Philosophical Society: An Institutional Profile in 1992

Hedi Kyle, Conservator
Philadelphia, Pennsylvania

INTRODUCTION

The American Philosophical Society (APS), founded in 1743, was based on a proposal by Benjamin Franklin and became the first learned society in this country. To this day the promotion of useful knowledge is of primary concern. The library, with 180,000 volumes and 6 million manuscripts, constitutes a major center for research in the history of science, medicine, technology and Americana to 1840. Although this is a collection of moderate size, it plays an important role in serving a worldwide community of scholars.

In order to provide access to most, if not all the materials within the collection, care and maintenance have long been a high priority.

EARLY PRESERVATION RECORDS

Checking the Librarian's report in the Society's Year Books reveals some interesting information. Sporadic preservation efforts go back to the early 19th century, when the Declaration of Independence was first "worked over." In the 1890's certain manuscript collections were shipped to the Library of Congress to be cleaned, repaired and mounted. Forty years later archival folders were first put to use, as the manuscript collections were catalogued.

The most interesting early conservation records are those kept by Carolyn Rugh, (later Carolyn Horton). They date from May 1935 – December 1935, but Mrs. Horton was employed for several years on a free lance basis. In this particular log she clearly describes a number of treatments and accounts of her time and material expenses. The actual work can be identified easily by looking at her notes. It speaks of quality and good judgement.

The APS was also among the first institutions to regard microfilming as an important preservation measure. A conference on the scholarly use of microform technology held more than fifty years ago, contributed to the founding of University Microfilms.

THE FIRST COMPREHENSIVE CONSERVATION PROGRAM

In 1961 Willman Spawn became the first full-time conservator, although his part-time involvement with collection maintenance at the APS had begun in the late forties. Upon his new appointment he was provided with a small modestly equipped lab and an assistant. Willman Spawn designed protective enclosures and established guidelines for the treatment of manuscripts and books. While he and his assistant undertook work mostly on flat paper items, a great number of rare books were sent out to be restored or rebound.

Fritz and Trudi Eberhardt, two German binders, who settled in Harleysville, Pennsylvania in the early sixties, restored and rebound hundreds of leather and vellum books during their twenty year affiliation with the APS Library. Records of other binderies include the names of MacDonald in New York, Storm in Arizona and Wessely in England. The practice of sending serials out to library binderies continues and results in approximately 400 hardbound volumes per year.

Shortly before Willman Spawn's retirement in 1985, 60,000 volumes were moved to a new location, a converted bank building with environmentally controlled and light protected stacks. Prior to this move Willman Spawn planned and conducted a major project of housing 30,000 items in wrappers, folders, and boxes.

CONSERVATION AT THE APS TODAY

As the next conservator in line, my first task in 1986 was to redesign the lab. This was made possible by a 1985 grant from the Pew Charitable Trusts. The space was tripled and new

equipment was purchased. We are set up for all the treatments we need to do now, but hope to add a few more pieces of equipment in the near future.

Two conservation technicians, Denise Carbone and Julie Snell, work with me three days each per week. Denise is a recent graduate from the University of the Arts master's program in Printmaking and Book Arts. She received her training through an APS summer internship and work at the bindery of the Library Company of Philadelphia under the guidance of Jennifer Woods. In fact, both libraries now share her services on a 3 to 2 day ratio; we all profit from the vital exchange of methods and ideas. On several occasions the two institutions have also arranged to purchase materials together, thus taking advantage of bulk prices and greater varieties of supplies.

Julie, with a degree in Fine Arts, came to the APS as a volunteer, after working for the Conservation Center for Art and Historic Artifacts (CCAHA). She has taken every opportunity to learn and improve her skills, including doing extensive reading.

In keeping with the APS's commitment toward the professional development of its employees, the technicians' training exceeds the basic every day routines. They are involved with problem solving, experimenting with techniques and to some extent decision making. Each year one of them may participate in a major conference or workshop at the Library's expense. Certainly their involvement with professional organizations will grow, as they become more rooted in the field. Self-motivation, interest, manual skill and common sense are attributes both of them have.

The growing number of requests for internships has prompted Dr. Edward C. Carter II, the Librarian, to admit two candidates each year. A summer internship is reserved for a student from the Graduate Book Arts program at the University of the Arts. For the past two winters we have had two German interns.

The Conservation Department reports to Hildegard Stephans, Associate Librarian for Administration. The Librarian however has the final word. He is committed to and supports our conservation program. He pays a short visit to the lab almost daily and always lends us an ear.

CONSERVATION POLICIES

Size, condition and use of the collection as well as the budget are the main factors that determine the maintenance program of our library. The historical value is predominant, and it is our concern to guard its integrity. We strongly believe that enclosures are the first and best step to protect fragile and endangered specimens. Yet we encounter and work on a great number of items where repair, re-backing or re-binding does not interfere with, or destroy originality and historical evidence. Every item should withstand use and handling; after all, we are a working library, not a museum.

We perform two functions in one space: one concerns mass production treatment, the other focuses on the conservation of single items.

Enclosures of all kinds, including mylar encapsulations, make up the bulk of our yearly production. Cleaning, flattening and mending of documents, maps, and drawings constitute another volume of work.

PAMPHLET TREATMENT

Pamphlet binders have never been used at the APS. Until the early forties pamphlets were library bound in small batches, as they came in, regardless of subject and size. By the late forties a new system developed. From then on pamphlets were put into individual folders, cataloged and stored according to subject in upright manuscript boxes. It is now one of our tasks to take the earlier deteriorating bindings apart and make the pamphlets individual again. After being cleaned, repaired and even re-sewn, they stay together as a volume in a slipcase.

WORK FLOW AND SPECIFICATIONS

Most staff members, especially the librarians and cataloguer, target books and other materials that need our care. Periodic dusting and shelf arranging uncover preservation problems as do the unpacking of newly acquired collections. Treatment decisions are made in the conservation department but the librarians are often consulted. Rush items are given top priority and turned over as soon as they are needed. Other items collect on our backlog shelves, where they are organized into categories. Ideally we each focus on one category at a time. If it has grown out of proportion, we work on it together. In reality however there are many disruptions in this routine. A new collection may enter the library and need immediate attention. We are also responsible for the installment of in-house exhibits as well as for the matting and packing of those materials which the APS lends to other institutions.

Twice a year we plan and conduct preservation and small exhibit workshops for institutions that lack preservation programs.

PROGRAM ROOTS AND INFLUENCES

We do not follow any particular school of thought although my early training with Laura Young has been instrumental in providing basic guidelines. Close associations with Gary Frost, Pamela Spitzmueller, Jeri Davis, Maria Grandinette, Virginia Wisniewski-Klett, Judith Reed, and Nelly Balloffet have also had considerable impact. In the conservation lab of the APS our philosophy is to stay informed, to examine, to experiment, to adapt and to progress.

CURRENT TECHNIQUES

PRESERVATION ENCLOSURES

My presentation reflects the kind of enclosures we fabricate and use at the American Philosophical Society. As we eliminate steps or perform others more efficiently, timesaving procedures evolve over the years. The materials we use are a choice arrived at by experimenting and through trial and error. We also check the market continuously and go by recommendations and samples.

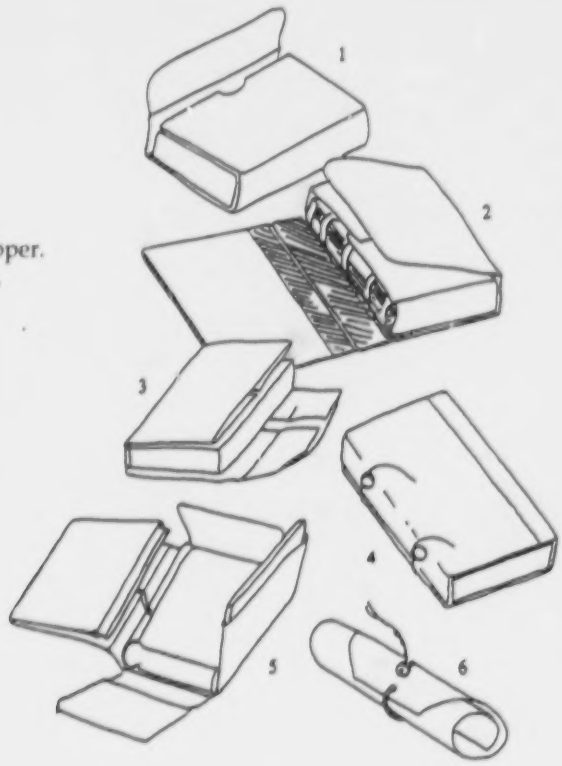
For the most part our enclosures are simple, utilitarian, and even uniform. Their aim is to provide good protection, easy access, and sufficient identification of the content. Good packaging leads to better care and more careful handling.

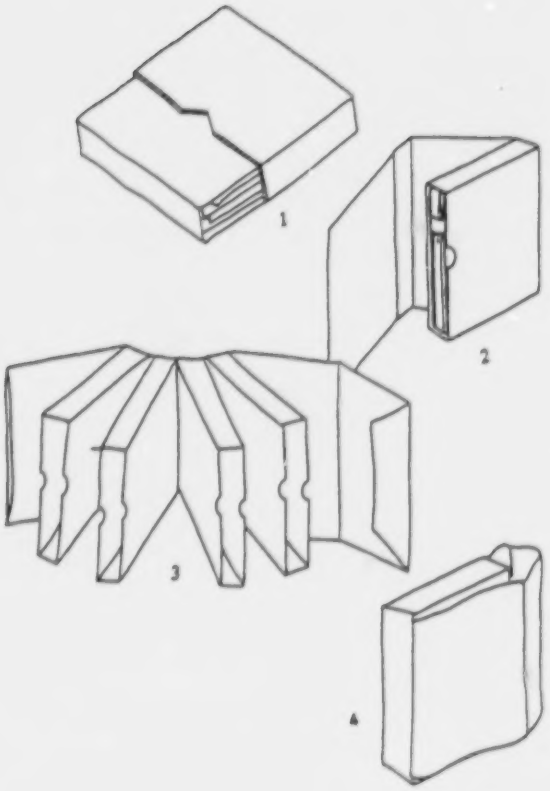
We divide our enclosures into different groups. There are those considered temporary and those meant to be permanent. They all have one thing in common; they conceal their contents. As uniformly written or printed titles and call numbers give no physical characteristics away, we code temporary enclosures, which enables us later to pull items for specific treatment. It saves us the effort of doing another survey.

Permanent enclosures on the other hand deserve a bit more time and care devoted to their construction. We go as far as to say that we need to pay respect to the item inside. This is expressed by the choice of materials as well as the preparation of photocopy-generated labels on to colored Moriki paper or 0.10 paste painted Library Board. The labels are thus reduced or enlarged replicas of spines, covers or title pages. They permit a glimpse at what to expect, so to speak, at the front door.

WRAPPERS ➤

1. Self closing wrapper.
2. Hardcover wrapper.
3. Storage wrapper.
4. Oversize corrugated wrapper.
5. Detached board wrapper.
6. Scroll wrapper.



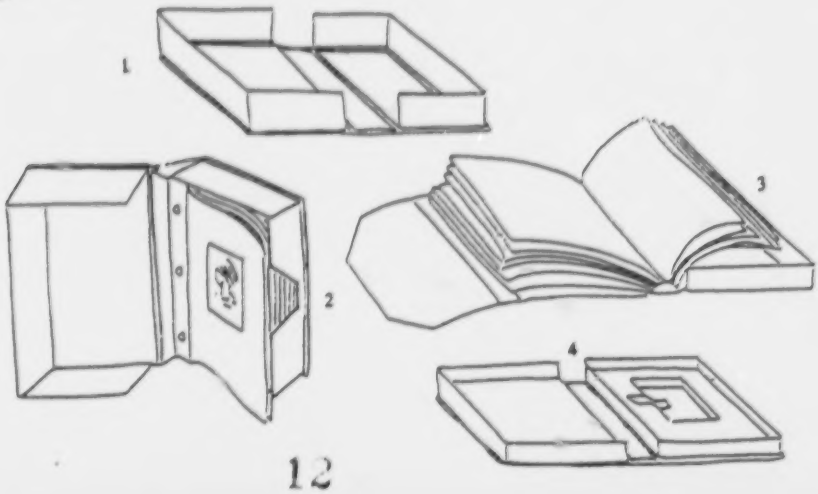


◄ *SLIPCASES*

1. Slipcase with chemise.
2. Wrapped slipcase.
3. Multi-section slipcase.
4. Non-adhesive slipcase.

BOXES ➤

1. Clamshell box.
2. Post binder box.
3. Wrapper box book.
4. Box with inset.



ORGANIZING
- Sorting by size.
- Deciding on type of enclosure.
- Estimating time and cost.

TECHNIQUE
- Measuring.
- Scoring.
- Folding.
- Creasing.
- Gluing.
- Corner rounding.
- Cutting thumb notches.

LABELLING
- Computer printed labels.
- Photocopied labels.
- Hot stamped labels.
- Hand written labels.

MATERIALS
- Binder's board.
- Library bristol.
- Acid free corrugated board.
- Pressboard.
- Permalife paper.
- Book cloth.
- Mylar.
- Tyvek.

ADHESIVES
- PVA.
- Methyl cellulose.
- Double–sided tape.

IDENTIFICATION
- Symbols for type of book.
- Symbols for binding material.
- Symbols for future treatment.

EQUIPMENT
- Vagelli board shear.
- Corner rounder.
- Ultrasonic encapsulator.
- Heat set press.
- Drill press.
- Grommet punch.
- Xerox machine.
- IBM computer/printer.

FASTENERS
- Clips.
- Buttons.
- Tongue/slot.
- Rods.
- Velcro.
- Ties.
- Magnets.
- Brass fasteners.

The Book Repair Program at Brigham Young University: An Institutional Profile

Randy Silverman, Preservation Librarian
Provo, Utah

INTRODUCTION

Brigham Young University's (BYU) Harold B. Lee Library (HBLL), situated in the arid Intermountain West, is a research library containing slightly more than three million volumes. The library consists of a main library, as well as separate business, museum, and learning resource center libraries. The Law Library is a separate organizational entity. All repair work is handled by the HBLL's Book Repair Unit. Located in the main library, the Book Repair Unit is an organizational component of the Preservation Department within the HBLL's Technical Services Division and reports directly to the Preservation Librarian. The HBLL also has a Conservation Lab responsible for the treatment of its special collections material. While separated physically within the main library from the Book Repair Unit, the lab collaborates with the Book Repair Unit as needed to help establish and improve treatment standards, order specific supplies, and provide advanced training.

HISTORICAL BACKGROUND

Oral tradition traces the Book Repair Unit's operation to the early 1960's. Originally, the program used "piece work" as an incentive to induce productivity. The early techniques included the use of clear or black pressure–sensitive tape for spine repairs, double–stitched binding tape for reattaching book blocks to their covers, and the nailing of temporary bindings (a local refinement on the stabbed sewing). This last technique, when "properly" executed, required that sixpenny nails be driven through the spine edge of an incomplete serial set over a piece of iron forcing the nail tip to curve back into the material on its underside to prevent patrons from getting cut on the protruding point.

Craig Jensen was appointed as the library's first conservator in 1977 and, after a one year internship at the Library of Congress, initiated a new era in book repair for the library. He focused primarily on rare book conservation but gave considerable attention to improving the repair standards for the circulating collection. In a shop comprised exclusively of student employees, Craig trained student employee Kirby Packam in the new techniques he devised. He then made him the Book Repair Supervisor to maintain the ongoing training of other student employees. Unfortunately, after showing great promise as a trainee, Kirby became intractable and the program once more lapsed into performing repairs that would prove damaging over the next ten years. Most significantly, the use of polyvinyl acetate applied directly on the spine of all repaired books, oftentimes in lieu of proper mending and sewing techniques, created a legacy that continues to haunt us as these materials resurface in need of further repair.

In 1983, Randy Silverman became Robert Espinosa's Assistant Conservator in the Conservation Lab. Two years later he took over the Book Repair Unit under the supervision of the Preservation Librarian, Ellen McCrady. Combining his commercial background (Dobbs Brothers Restoration and Conservation Company) with training as a rare book conservator, he and Robert worked to blend the shop's existing techniques with some commercial bookbinder's speed–tricks and a number of efficient book conservation techniques. Major improvements included:

- use of a first layer of Japanese paper and wheat starch paste in spine lining, over which a second layer of polyvinyl acetate and crash are applied;
- sewn–on endpapers as a standard procedure; the use of a reinforced case binding structure to afford maximum durability;

- use of a pamphlet binding structure that prevents adhesive from coming into direct contact with the pamphlet;
- use of cloth rebacking instead of rebinding (when appropriate) to preserve many original 19th and 20th century publishers' cloth bindings; and,
- standard application of laser printed paper labels for titling finished work.

James Fairbourn became the Book Repair Supervisor in 1987 after working in the shop for 1.5 years as an (incredibly) talented student employee. During his tenure, training standards and the quality of shop production have consistently improved. He has implemented many experimental techniques that are now considered norms while carefully maintaining a standard of excellence and service that has endeared the Book Repair Unit's work to the library at large. This accomplishment is more impressive given the work force he is responsible for training: twenty student employees and one volunteer! From this diverse pool of talent (and conflicting class schedules), he consistently produces beautiful work, and, on occasion, turns out someone who has gone on to a career in the library conservation profession.

FUNCTION OF BYU'S BOOK REPAIR UNIT

Under the direction of the Book Repair Supervisor, the Book Repair Unit is responsible for in-house repair of all general collections material deemed inappropriate for commercial library binding. This determination is based upon the physical characteristics of the designated material, the economic merit of in-house treatment, or the user demands that would prioritize in-house treatment because of time constraints. The repairs performed by the Book Repair Unit must:

1. incorporate techniques that will not prove damaging to the collection over the life of the material;
2. be expeditious to perform; and,
3. retain the original integrity of the object being treated whenever appropriate.

The Book Repair Unit, in collaboration with the Preservation Librarian and the Library Conservator, constantly strives to develop techniques that meet these criteria. In addition, the Book Repair Supervisor is responsible for: maintaining tools and equipment and ordering raw materials of suitable permanence and durability; hiring and training personnel to implement repair techniques appropriately; consistently monitoring quality and work flow within the shop; and, determining treatment specifications for material requiring repair. The Book Repair Supervisor also maintains an overview of the physical condition of the entire collection to insure that in-house book repair services are distributed equally throughout all library departments.

STAFFING AND ORGANIZATION

The Book Repair Unit is staffed by one full-time equivalent (1 FTE) supervisor, twenty half-time student technicians (10 FTE), and one half-time volunteer (0.5 FTE). The staff is non-union, with the salaries ranging from $5.00–5.40 per hour for student technicians, $7.50–8.00 per hour for student supervisors, and $21,000–30,000 per year for the full time supervisor. The entire staff receives in-house training, with student technicians learning from their student supervisors and ultimately from the Book Repair Supervisor. Improvements in technical and operating procedures come from a number of sources: the Book Repair Supervisor, the Preservation Librarian, the Library Conservator, the student supervisors, and occasionally from the student technicians themselves. A premise we share is that the shop can always stand improvement, and any good suggestion is welcome, encouraged, and rewarded (if only through recognition).

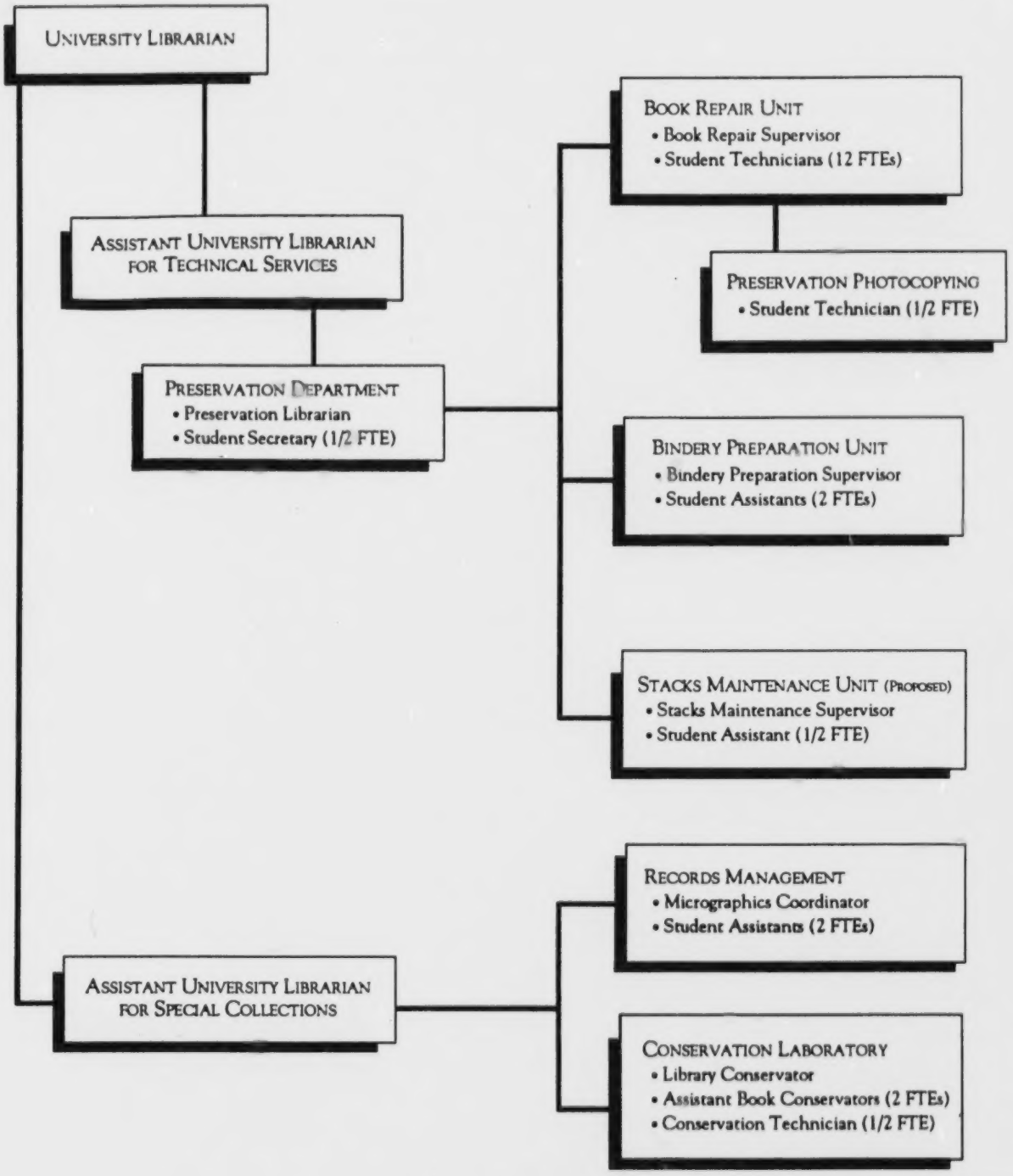
In an effort to eliminate the library's backlog of circulating material needing repair, the HBLL operated a night shift from 1989–1992. This shift was responsible for eliminating most of

the 500+ books in the backlog — the first time in the library's history that the backlog had been brought current. The task was accomplished by using two six-person teams, each of whom were required to bind 30 books per month from the backlog in addition to their normal load of incoming daily work. The rest of the shop focused on incoming work as usual, and maintained a turn-around time of approximately 30 days on most materials (except for the inevitable stragglers that seem to haunt the bindery). Most of the books in the backlog constituted the worst repair problems in the library because "easier" work had systematically been chosen over time in preference to these "problem" titles. The two teams chose to meet their quotas using different methodologies: one chose to have each individual perform every operation on every book independently; the other chose a team approach, with each individual specializing in specific steps of the treatment in an assembly-line fashion. Despite our expectation that one team would probably outshine the other, both approaches seemed to work equally well and produced excellent work. From this, we've confirmed that people respond well to a positive work environment regardless of the tasks required or the methodology used to accomplish the task. Additionally, small groups increase the amount of time that the student supervisor can spend giving personalized supervision to the technicians.

PROFESSIONAL DEVELOPMENT

The Book Repair Unit Supervisor has generous support from the library for professional development, and during the past four years has been able to attend one national and one statewide conference relating to book conservation per year. Additionally, technicians are encouraged to attend local activities that contribute to their professionalism. One year, a student supervisor with professional aspirations was even able to "piggyback" on two other staff members' attendance at an annual American Institute for Conservation meeting. The Book Repair Unit Supervisor also serves on library committees and represents the department when appropriate.

BYU PRESERVATION AND CONSERVATION: 1993 ORGANIZATIONAL CHART



WORK–FLOW AND TREATMENT SPECIFICATION

Ninety percent of the Book Repair Unit's work load is identified by the Circulation Department when material is returned to the library. Badly damaged work is also identified by shelvers working in the stacks. Treatment specifications are determined by the Book Repair Unit Supervisor. The material is checked out to either the Book Repair Unit or the Bindery Preparation Unit (for commercial library binding), and assigned a tracking number on a dated, color–coded identification slip. This procedure allows work to be traced and/or recalled for patron use while it is in the Preservation Department.

Other sources of books requiring repair include non–circulating material (serials, reference books, government documents, and books from the Reserve Library); books received in damaged condition through the gift or order processes; and, folio or quarto books that receive in–house use but do not circulate because of their awkward dimensions. Additionally, incomplete serial and periodical sets are routed to the Book Repair Unit from the Bindery Preparation Unit for temporary bindings until the set is completed and can be library bound commercially. This material receives standard temporary bindings, with the sewing style determined by the leaf attachment of the material to be bound.

Books containing paper too brittle to bind are reformatted as preservation photocopies under the supervision of the Book Repair Unit Supervisor, and sent to the Bindery Preparation Unit for commercial library binding.

Finished work is discharged from the Book Repair Unit to the Lettering Department (which is not part of the Preservation Department) using the NOTIS on–line computer system. After the work receives its call number label, it is routed back to the Circulation Department where it is discharged from Lettering and re–shelved for patron access.

Books repaired on a rush basis for the library's seven reference areas and three learning resource centers are dropped off and picked up by employees of the various departments, expediting the turn–around time on material that is in high demand.

PRIORITIZING WORK

Preservation treatment priorities are determined collection–wide by correlating physical condition with current use patterns. This system for determining preservation treatment priorities allows limited resources to be focused on material that is both currently damaged *and* at the greatest risk of receiving further damage through continued use. Implied in this policy is that while material may require some form of repair due to its poor physical condition, unused material at rest in the collection is in relatively little danger of sustaining further damage.

Currently, no grant–driven repair project exists at BYU, although certain collections do receive priority — a condition that is not always desirable. For example, BYU owns a collection of violin and viola music (the Primrose Collection) of international significance that requires binding before it can be cataloged. After cataloging, the records are contributed annually to an international bibliography. Consequently, a large number of pieces from this collection are bound each year, regardless of actual or anticipated demand. Additionally, thousands of nineteenth century books received by the library as a gift require repair before they can be shelved, despite their projected low use. Again, this has a negative impact on the Book Repair Unit, placing demands on it that undermine its ability to keep up with repair problems in the heavily–used circulating collection. This issue of the Book Repair Unit's need to prioritize its own work based on use patterns continues to be a small problem despite a policy drafted by the Preservation Department and adopted by the library that addresses this issue. As with many problems of this sort, our only hope of rectifying this problem may be the passing of time.

CURRENT TECHNIQUES

CASE BINDING

Technique: Rebinding for material that is inappropriate for commercial library binding due to technical considerations (weak paper or damaged sewing or text) or due to a need for fast turn–around time. Case has small squares to minimize the distance the text block has to sag before it rests on the shelf. The hinges are reinforced with an internal piece of crash laminated to boards (similar to a Bradel binding) but left unattached to the spine cloth to promote flexibility. Endpapers are sewn onto tapes and sewn to three sections of text block. To assure future reversibility, the first spine lining is Japanese paper and wheat starch paste, with the second spine lining a tightly–woven cotton crash and PVA. Titled with original cloth spine over new cloth or a laser printed Japanese paper label.

Binding design: Robert Espinosa from Alexis Pierre Bradel. Laser labels: Randy Silverman from Robert Milevski.

Materials:

Sailcloth cotton–linen book cloth (Permalin Products).
Machine–made Japanese paper (Paper Nao).
Stretch cloth (Holliston Mills).
Linen thread and cotton tapes (Johnson Bookbinding).
Machine–made endpapers Antique Laid (Process Materials) [no longer available].
Davey gold label binder's board (Library Binding Service).
Zin Shofu precipitated wheat starch (Conservation Materials, Ltd.).
Co–polymer PVA (Wisdom Adhesives).

Time: 2 hours.

Number produced in 1992: 1,049.

CLOTH REBACKING

Technique: Repair for failed cloth joints when original cover is to be preserved. To assure future reversibility, the first spine lining is Japanese paper and wheat starch paste, with the second spine lining a tightly–woven cotton crash and PVA. New Japanese paper internal hinges attach under the pastedown so the endpapers are not altered. Original cloth spine is reattached over new cloth spine.

Binding design: David Gingerich, from Randy Silverman *et. al.*

Materials:

Iris rayon book cloth (Permalin Products).
Machine–made Japanese paper (Paper Nao).
Stretch cloth (Holliston Mills).
Zin Shofu precipitated wheat starch (Conservation Materials, Ltd.).
Co–polymer PVA (Wisdom Adhesives).

Time: 2 hours.

Number produced in 1992: 191.

CLOTH SPINE REPAIR

Technique: Expeditious repair for failed outer hinge when endpaper hinges remain undamaged. Original spine–lining material left undisturbed. Titled with original cloth spine over new cloth or a laser printed Japanese paper label.

Binding design: Craig Jensen, *et. al.* Laser labels: Randy Silverman from Robert Milevski.

Materials:

Sailcloth cotton–linen book cloth (Permalin Products).
Co–polymer PVA (Wisdom Adhesives).

Time: 20 minutes.

Number produced in 1992: 481.

COVER-UPS STIFFENERS™

Technique: Commercially available reinforcement for modern publishers' trade paperback books estimated to receive low circulation as an alternative to library binding.
Binding design: Jerry Bexley, (Vinyl Industrial Products, Inc., 800–874–0855).
Materials:
Cover–Ups (archival polyester coated with acrylic adhesive).
Time: 10 minutes.
Number produced in 1992: 164.
Cost: Approximately $2.00 each.

DROP-BACK BOX

Technique: Permanent protective enclosure for damaged or fragile books. Drop–back spine, double wall construction. Titled with a laser printed Japanese paper label.
Binding design: Library of Congress. Laser labels: Randy Silverman from Robert Milevski.
Materials:
Canapetta book cloth (Bookmakers).
Archivart Dove gray endpaper (Process Materials).
Davey gold label binder's board (Library Binding Service).
Co–polymer PVA (Wisdom Adhesives).
Moriki colored Japanese paper for laser printed label (Hiromi Paper International).
Time: 3 hours.
Number produced in 1992: 1.

REHINGING LEATHER BOARDS

Technique: Rehinging of detached tight back or hollow back leather boards.
Binding design: Robert Espinosa from Anthony Cains. Dyed paper outer hinge: Don Etherington.
Materials:
Linen thread (Johnson Bookbinding).
Machine–made Japanese paper (Paper Nao).
Moriki colored Japanese paper for out hinge (Hiromi Paper International).
Zin Shofu precipitated wheat starch (Conservation Materials, Ltd.).
Co–polymer PVA (Wisdom Adhesives).
Time: 30 minutes per board.
Number produced in 1992: 32.

LIBRARY BINDING SERVICE PAMPHLET BINDER

Technique: Commercially available permanent binder for pamphlets. Text is sewn through the fold whenever possible, though stapling through the fold or through the side are possible.
Binding design: Fritz James, Barclay Ogden and Hans Wiesendanger.
Materials:
0.050 Boise Cascade high density acrylic coated board (Library Binding Service).
Acrylic coated C–1 cloth (Library Binding Service).
Cotton cambric spine reinforcement (Library Binding Service).
0.020 polyester (Library Binding Service).
Time: 10–15 minutes.
Number produced in 1992: 890.

PAMPHLET BINDING

Technique: Quarter–cloth pamphlet binding with cloth sides, this binding is used for pamphlets intended for the permanent retention. Endpaper and reversed book cloth hinge are wrapped around pamphlet and sewn through the fold, allowing the pamphlet to open freely. No adhesive comes into contact with the pamphlet itself, as the reversed book cloth hinge is glued directly to the boards before covering. A free guard in the center of each section prevents the thread from tearing through the center folds of the sections. Titled with a laser printed Japanese paper label. Details of the technique are published in: Silverman, R. (1988). "Small, Not Insignificant: An Examination of Pamphlet Binding Structures," *American Institute for Conservation of Historic and Artistic Works, Book and Paper Group Annual*, 6, pp 111–139.

Binding design: Randy Silverman from Pauline Johnson. Laser labels: Randy Silverman from Robert Milevski.

Materials:

Sailcloth cotton–linen and Iris rayon book cloth (Permalin Products).
Linen thread (Johnson Bookbinding).
Moriki colored Japanese paper for laser printed label (Hiromi Paper International).
Graphika machine–made endpapers (James River Corp.).
Davey gold label binder's board (Library Binding Service).
Co–polymer PVA (Wisdom Adhesives).

Time: 1.5 hours.

Number produced in 1992: 128.

PHASE BOX

Technique: Drop–back spine design commercially produced by Custom Manufacturing, Inc., Germantown, MD (Tel: 717–642–6340).

Binding design: Mike Waters.

Cost: Approximately $8 each.

Materials:

Archival corrugated board.

Time: 10 minutes (measuring and folding).

Number produced in 1992: 13.

POLYESTER ENCAPSULATION BOOK

Technique: Sewn encapsulation book for the protection of heavily used or intrinsically valuable books with damaged or brittle paper. Titled with a laser printed Japanese paper label.

Binding design: Bill Minter. Laser labels: Randy Silverman from Robert Milevski.

Materials:

Archival polyester (Pilcher Hamilton Corp.).
Canapetta book cloth (Bookmakers).
Davey gold label binder's board (Library Binding Service).
Archivart Dove Gray endpaper (Process Materials).
Co–polymer PVA (Wisdom Adhesives).
Moriki colored Japanese paper for laser printed label (Hiromi Paper International).

Time: 2 hours + encapsulation.

Number produced in 1992: 0.

POLYESTER STIFFENER

Technique: Clear polyester reinforcement for books published with paper wrappers as an alternative to case binding. Design prevents adhesive from coming into contact with cover or text, as the polyester and inner card support are held together with polyester tabs using double–sided tape.

Binding design: Randy Silverman from Craig Jensen.
Materials:
Archival polyester (Pilcher Hamilton Corp.).
3M #415 double coated tape (University Products).
0.020 archival board (Library Binding Service).
Time: 20 minutes.
Number produced in 1992: 519.

SPLIT BOARD BINDING

Technique: Extremely durable rebinding for heavy and oversized material. Endpapers have rayon book cloth hinge nested between two heavy-weight sheets, and sewn through the fold on tapes, attaching to three sections of text block. First spine lining, Japanese paper and wheat starch paste, second spine lining, dense canvas duck and PVA. Canvas is sandwiched between outer leaf of the endpaper, and inserted between two weights of binder's board. Covered as a quarter binding with cloth corners and sides. Titled with a laser printed Japanese paper label.
Binding design: Douglas Cockerell. Endpaper design from Gillian Boal. Laser labels: Randy Silverman from Robert Milevski.
Materials:
Sailcloth cotton-linen book cloth for spine and corners (Permalin Products).
Canapetta book cloth sides (Bookmakers).
Iris rayon book cloth joints (Permalin Products).
Canvas duck (army weave Dixie canvas #1370 Ganes Brothers).
Archivart Heavy Duty Endleaf (Process Materials).
Machine-made Japanese paper (Paper Nao).
Davey gold label binder's board (Library Binding Service).
Linen thread and cotton tapes (Johnson Bookbinding).
Zin Shofu precipitated wheat starch (Conservation Materials, Ltd.).
Co-polymer PVA (Wisdom Adhesives).
Moriki colored Japanese paper for laser printed label (Hiromi Paper International).
Time: 3 hours.
Number produced in 1992: 5.

TEMPORARY (TEMP) BINDING

Technique: Housing for incomplete serial sets and little-used library material. Text is sewn or adhesive bound, depending on the original leaf attachment. Crash lined directly to spine with PVA. Covered in quarter cloth, leaving grey/white board exposed.
Binding design: Craig Jensen.
Materials:
Starch filled buckram (Johanna Western Mills).
0.058 Boise Cascade grey/white board (Library Binding Service).
Stretch cloth (Holliston Mills).
Card-stock stiffener (James River Corp.).
Linen thread (Johnson Bookbinding).
Co-polymer PVA (Wisdom Adhesives).
Time: 20 minutes.
Number produced in 1992: 2,757.

COST COMPARISON OF BYU PRESERVATION TREATMENT OPTIONS

Cost Range Estimated in 1993 $$$	2.00	4.00	8.00	16.00	32.00	64.00	128.00	256.00	512.00
IN-HOUSE BOOK REPAIR									
Paper Repair									
Tipping-In Pages	•	•							
Hinging-In Plates	•	•							
Heat-Set Tissue Repair	•	•	•	•	•				
Japanese Paper & Paste Repair	•	•	•	•	•	•			
Guarding			•	•	•	•			
Minor Binding Repair									
Slitting Unopened Pages	•	•	•						
Preparing for Commercial Binding		•	•						
Tightening Hinges	•	•							
Pocket	•	•							
Polyester Wrapper		•	•						
Cover-Up Paperback Stiffener™		•							
"Temporary" (Temp) Binding		•	•	•					
LBS Pamphlet Binder™		•	•						
Intermediate Binding Repair									
Cloth Spine Repair		•	•						
Corner Repair	•	•							
Replacing Torn Endpaper		•							
Reusing Original Case			•	•					
Rebinding/Major Binding Repair									
Cloth Rebacking				•	•				
Rehinging Leather Boards			•	•					
Pamphlet Binding				•	•				
Case Binding				•	•				
Case Binding + Resewing					•	•			
Oriental Binding Repair			•	•	•				
Islamic Binding Repair			•	•	•				
Polyester Encapsulation Book						•	•	•	
Split Board Binding					•	•			
Enclosures									
Phase Box			•	•					
Simple Portfolio				•	•				
Drop-Back Box					•	•			
LIBRARY BINDING									
Double-Fan Adhesive Binding			•	•					
Sew Through the Fold				•	•				
Recasing				•	•				
Oversewing			•	•					
RARE BOOK AND PAPER CONSERVATION									
Washing, Deacidification, Resizing					•	•	•	•	
Tape and Stain Removal				•	•	•	•	•	
Matting						•	•		
Historical Binding Repair						•	•	•	•
Conservation Rebinding						•	•	•	•
MASS DEACIDIFICATION			•	•					
PRESERVATION REFORMATTING									
Photocopying			•	•	•	•	•		
Microfilming					•	•	•		
REPLACEMENT				•	•	•	•	•	

Book Repair And Conservation:
Conservation Center for Art and Historic Artifacts

Glen Ruzicka, Chief Conservator
Philadelphia, Pennsylvania

It has been an often stated goal of the Conservation Center for Art and Historic Artifacts (CCAHA) to introduce book repair as a service for our clients. Models have been prepared to illustrate typical treatment specifications that may be offered. The following is a brief outline of the topics I believe to be key in developing this service for a regional conservation center.

DOCUMENTATION

Regional conservation centers are established to provide professional conservation services. A distinguished feature of professional conservation service, in comparison to the services of a library binder or microfilmer, for example, is full documentation of the condition of each item before and after treatment. This includes a written condition report (pre–treatment), a final (post–treatment) report, and photographic documentation before and after treatment. These procedures are built into the treatment stream of any professional conservation practice. Such a level of documentation may be considered excessive and prohibitively expensive for a book repair service. What is an appropriate level of documentation? Is no documentation, but relying, for instance, on the standard repair specification as a replacement for a written report, acceptable for a conservation center? Is the use of computer–generated treatment descriptions adhered in the back of a book an acceptable compromise? These are some questions that must be addressed.

SELECTION

Choosing the appropriate candidate for book repair can call for the client and service provider to make subtle differentiations between damaged books. First, because book repair implies treatment to specification (see below), the client should ideally be able to identify books that fit the repair specification. This can imply that the client has a clear understanding of the repair specification, and is able to view the damaged book from the perspective of proposed treatment steps.

Are there clear criteria of selection? Selection criteria would necessarily include:

1) Examination of the text by the client and the repair technician to evaluate for:
   a) Acceptable level of tears and losses, how much mending is tolerable;
   b) Brittle or damaged paper (mold) – can the text be repaired and continue to be usable?
   c) Previous repairs — is there such a thing as "non–damaging tape", that is, can some repair tapes be ignored in repair?

2) Examination of the text block. Among the issues to be resolved are:
   a) Does the necessity for resewing a text block take the book out of consideration for repair?
   b) Is the adhesive consolidation of a loose text block through relining an acceptable shortcut?
   c) Is the existing attachment of text block and cover salvageable, or must it always be strengthened with paste downs, tackets, or cloth spine linings?

3) Examination of cover:
   a) What cover conditions are not reusable, such as, red rotted leather, frayed board edges, mold and water damage?

b) Does recasing in a new cover fit in a book repair specification? An issue with the latter is the question of the intent of repair: Is the maintenance of the artifact, or the usability of the text primary?.

A second factor in selection is the cost of book repair. Assessing value of items for treatment is, of course, the responsibility of the curator or librarian. It is also the responsibility of the curator or librarian to weigh the cost of repair against the value of the book. Although the per item cost of book repair will be very small in comparison to the cost of conservation, the cost of repair will probably be at least three times the cost of the most expensive library binding option. Although the curator or librarian will assess when the extra cost of repair is desirable over a library binding, should the book conservator decide when the book is no longer a candidate for repair but for conservation?

SPECIFICATION

An advantage of conservation in the treatment of objects is that the specification is open-ended. This means that in approaching the item the conservator brings a variety of techniques and materials, and, ideally, the item defines the treatment. In book repair, one or more specifications is defined and items for treatment are grouped according to the specifications. The conservator begins with the item and derives the specs; the book repairer begins with the specs and defines the item ("This is a reback," "this is a hinge repair"). In establishing a book repair service the definition of the specifications are key. A variety of specifications are desirable; however, too many options can lead to a random, "How shall I do it this time?" approach.

For library binders the single most important specification decision for any item is leaf attachment. In book repair, where the leaf attachment is assumed to be largely intact, the central decision is the choice of the cover-to-text attachment. This aspect of book repair is crucial because the repair is an attempt to save the original cover which is often damaged in several ways, and restore a broken cover-to-text attachment to usability. Similar to leaf attachment for library binders, the basic options for cover-to-text attachment are based either on adhesive or sewing. Some options include:

1) Adhesive attachments:
   a) Hollow tube adhered to the spine on one side and the spine of the cover on the other;
   b) The BookLab collection maintenance repair based on a Japanese paper hinged endpaper with a broad adhesive attachment to the spine and hinge to the inside cover board;
   c) The Japanese paper hinge, typically a narrow strip of paper added to either side of the joint of cover board and text block. (This technique has been presented and refined by Don Etherington.)
2) Sewn attachments:
   a) The CCAHA models use a cloth spine lining that can be sewn through the fold, or through the shoulder, and adhered to the inside cover boards;
   b) The oversewn endleaf, stab sewn through the shoulder, and adhered to the inside cover board;
   c) The tacketed cover, stab sewn through the shoulder, and laced through the cover boards.

These six options are probably not comprehensive, and there are certainly many variations possible. The book repair service provider has to choose among these options. Should the decision be made to offer multiple options, a clear demarcation must be set between the available options. There is a clear choice between through-the-fold sewing, double fan adhesive binding, and oversewing.

Book repair is not conservation. Treatment to specification is essential to any book repair service in–house or on contract. Conservation treatment, on the other hand, can function with six or sixty alternative treatment specifications. In fact, one may choose a conservator based on the breadth of his or her experience and openness to alternative approaches. Specification begins with the object, thus extensive documentation is required for conservation treatment. This requirement applies only partially to book repair. The multiplicity of options for treatment in book repair requires a certain faith on the part of the client that the appropriate choices are being made. This is often an argument for developing an in–house capacity for book repair. However, this requires that the curator or library is comfortable relying on the treatment experience and propensities of in–house repair staff.

Cornell University: The Department of Preservation and Conservation, Outline of Development

Shannon Zachary, Book Conservator
Ithaca, New York

The establishment of the Conservation Committee in 1982 began a program of steadily increasing support for preservation within the University Library. Under the leadership of Richard Strassberg, the committee was responsible for a number of initiatives, including surveys of portions of the collections, and the development of a disaster plan. It was not until the New York State landmark library legislation of 1984. However, that the strong recommendations of the committee for the creation of a preservation/conservation department could be implemented. The legislation provided for the annual funding of eleven comprehensive research libraries in the State, with each library receiving $90,000 to establish and maintain a preservation program. Each library was required to submit a Five–Year Plan by March 1985, and by August of the same year, a Conservation Librarian position was established at Cornell and filled by the present Director.

The first task of the new librarian was to begin to reorganize existing resources by designing new commercial binding styles and procedures, retraining staff to repair damaged library materials, establishing in–house prebinding operations, and instituting changes in handling and security marking. A proposal for preservation education and training was quickly submitted to the Andrew W. Mellon Foundation, and in early 1986 the grant award permitted the positions of Conservation Liaison Librarian, Paper Conservator, and Book Conservator to be established. Anne Kenney, Tatyana Petukhova, and Shannon Zachary were soon appointed to the positions respectively, and another timely grant from the new State Coordinated Grants Program enabled a fully–equipped conservation facility to be opened at the Library Annex.

From the beginning, the overall strategy of the Department has been to approach the preservation of the collections in two ways: first to preserve materials that are damaged through use, to quickly process all new unbound acquisitions, and to have periodicals commercially bound; second, to begin a collection by collection approach starting with those collections considered to be of great national significance and utilizing, where possible, grant funding. This bipartite strategy has resulted in the present configuration of preservation units and the continued development of the program, as articulated in the 1990 Five–Year Plan to New York State, and it is not anticipated that there will be any substantial changes in the near future.

At the present time there are ten distinct units within the Department, divided between the Director, John Dean, and the Associate Director, Anne Kenney. Those units concerned with conservation treatment, consisting of: Collections Conservation, Book Repair, Preparations, Conservation Liaison, Book and Paper Conservation, are the direct managerial responsibility of the Director. Those units generally concerned with reformatting, consisting of: the Brittle Book Program, Scanning and Digitization, Preservation Microfilm, and (a slight anomaly) the Commercial Binding Office, are the direct responsibility of the Associate Director. The Department's administrative office represents the tenth unit, and is the source of all preservation grant writing, materials specification and ordering, and preservation reference. Dorothy Halgas is the Department secretary, and, in addition to her other duties, helps keep track of the many grant budgets administered by the Department.

A further successful Andrew W. Mellon grant award in 1991 enabled the appointment of Barbara Berger to the position of Reformatting Librarian, and Susana Harris to the position of Book and Collections Conservator. Barbara supervises the Preservation Microfilming Unit and the project staff within it – currently Xiaoju Wang and Maria Cilveti – and the Brittle Books Technician, Joseph Sweet. Susana supervises the Book Repair Unit with Judi Clark (head),

Roger Clearwater, and Pat Fox, and the Preparations Unit, staffed by Pat Teeter and Sherry Hubbard. She is also responsible for the conservation treatment of groups of pre–1850 books within the Outline Collection. A recent federal grant award places Susana as the conservator/director of a project to restore the French Revolution Collection with the assistance of three additional technicians.

The Book Repair Unit deals with the full repair of books damaged by reader use, as identified after circulation, and the Unit directs books that have brittle paper to the Brittle Book Replacement Unit. Book Repair staff are trained to make a range of protective enclosures and to carry out a program of cloth rebinding for pre–1850 books under Susana's direction.

The Preparations Unit prebinds by the stiffening process large numbers of paperbacks prior to first–time shelving, and must work productively to keep pace with the books processed by Central Technical Services. As the staff numbers only 1.5 FTE, the Unit is often supplemented by other Department staff to keep pace and to produce more than 4,000 items per month.

The Commercial Binding Office is headed by Susie Cobb, who is assisted by Laura Smith, Pam Clearwater, and Sharon Ray. The task of this Unit is to prepare materials for commercial binding by collating all periodicals, retrieving the standard data from the binder's data base and generating binding instructions on–line to the binder, and carrying out quality control checks when the completed binding has been returned. As with Book Repair, this Office processes materials from all the endowed libraries, with the exception of Law.

The Conservation Facility, currently at the Library Annex, is staffed by the Paper Conservator, Tatyana Petukhova, and the Book Conservator, Shannon Zachary. Both are assisted by a conservation technician, Jane Foti. The conservators are responsible for the conservation and restoration of rare and unique library materials – generally those kept in the special collections of the University.

The Preservation Microfilming Unit under Barbara Berger, is responsible for the identification and preparation of library materials for filming and for the detailed inspection of all processed film. As the efforts of the Unit are directed primarily to grant–funded projects for the Library's most important collections, it is essential that careful accounting and scheduling be maintained in this office. As the national preservation program initiatives are concerned with reformatting, the Unit will continue to operate through grant funding into the future, and the size of its staff will always be determined by the nature of the project.

The Brittle Book Replacement Unit is related somewhat to the Reformatting Units, but its role is concerned mainly with the processing of recently–circulated library materials found to be brittle. Joseph Sweet is responsible for collecting data on the availability (reprints, micro–reproductions, etc.) of brittle books and their possible duplication in the collections before seeking replacement or discard decisions from selectors. Generally a book which needs to be replaced in the collection and is not available in some other form is photocopied onto archival paper and bound to produce a facsimile volume.

The most innovative Unit is Scanning and Digitization, which has been the subject of a great deal of national interest. The two scanning technicians, Michael Friedman and Susan Poucher, are responsible for the electronic scanning of brittle materials that are ultimately reproduced in paper facsimile form after being stored and made available as electronic images. Activity has been largely research and development in cooperation with the Xerox Corporation, the Commission on Preservation and Access, and Cornell's Center for Information Technology, but it is anticipated that eventually scanning production will begin to build a mass of digitized images from deteriorating library materials.

The Conservation Liaison Specialist, Joan Brink, organizes surveys of the collection in order to identify preservation candidates, and with the help of the curators, selects groups of materials for treatment by the conservation treatment staff. She closely monitors materials "in process" through a central documentation system, and is able to retrieve information on past work carried out by conservation staff. Furbishing at the shelf is also a part of Joan's

responsibilities. Regular programs of leather dressing and vellum cleaning will be combined with at-the-shelf surveying following the move into the Kroch Library.

Over the last six years, the Department has been successful with a number of grants from a variety of sources, and all the projects have been designed to further the realization of the 1990 Five-Year Plan. The two Mellon grants have provided the Library with five vitally important positions without which the Department would not be able to progress. In return, the Department performs a series of preservation workshops and consultancies for libraries and archives throughout the country, and works with interns from other institutions for six-month sessions. New York State Coordinated Grants have placed Cornell in a position of regional leadership through: the "Central New York Emergency Mutual Response Team", which provided funds for the construction of a freezer building at Cornell adjacent to the Library Annex; the "New York Technician Training Program," a three year program under which Cornell trains book repair staff from smaller libraries for two-week periods and, in return, is able to support a conservation technician salary; the "Cornell as a Regional Resource" grant, which provided funding for most of the equipment and furnishings at the Conservation Facility in return for our willingness to serve in an advisory capacity to other libraries in the region; and a variety of other grants that have enabled Cornell to carry out specific preservation/conservation projects.

The Department has also been extremely successful in gaining grants to preserve the Library's collections by microfilm and scanning and digitization. Cornell has just completed a 3 year grant to microfilm 4,000 volumes from the Echols Collection as part of a Research Libraries Group (RLG)-sponsored, National Endowment for the Humanities (NEH)-funded Great Collections Microfilm Project. The Great Collections Project will be extended for another 2 years and Cornell will film an additional 1,000 volumes from the Echols Collection. The largest preservation grant is that awarded by NEH for the microfilming of 10,000 volumes of Southeast Asian materials to begin early 1992. An additional RLG-sponsored, NEH-funded project is to microfilm important archival collections from the Department of Manuscripts and Archives and Labor Management Documentation Center. A New York State grant has enabled Cornell to microfiche 1,000 Political Pamphlets from the Labor Management Documentation Center.

In December, Cornell in conjunction with Xerox Corporation, completed a 2 year project which was funded in part by the Commission on Preservation and Access to test a prototype system for recording Brittle Books as digital images and producing, on demand, high quality and archivally sound paper facsimiles. The project also investigated some of the issues surrounding scanning, storing, retrieving, and providing access to digital images in a network environment. The Commission has funded an additional year's worth of work to investigate the production of microfilm from digital files and to provide direct access to the digital images on common computer platforms, such as the IBM PS/2, Apple Macintosh, and Sun work stations.

Part of the result of this crucial microfilming activity has been the Library's ability to send film copies of threatened or missing materials to countries like Cambodia to help rebuild their national bibliographies lost through neglect or war. The Department has also assisted these countries more directly by staff involvement in conservation training on site in Cambodia, help in setting up Preservation Microfilming Units abroad and in the rapid inspection at Cornell of film exposed in Cambodia in hazardous conditions. Because of the international importance of Cornell's activities in the preservation of these materials, Cornell will influence the future direction of the development of national preservation programs throughout Southeast Asia through the establishment of an international preservation/conservation center for the entire region.

The preservation and conservation program at Cornell has faithfully followed the course laid down for it by the original Conservation Committee, and, as resources become available, will achieve the goals set by the most recent Five-Year Plan of 1990.

Emory University Libraries Preservation Office

Ann Frellsen, Conservation Unit Supervisor
Atlanta, Georgia

The Preservation Office at Emory University was established in 1985 to serve all Emory Libraries, consistent of the Law Library, the Health Sciences Center Libraries, the Pitts Theology Library, the Oxford College Library, and the General Libraries (the Candler Undergraduate Library, the Chemistry Library and Woodruff Library). The size of the collections totals 2.2 million volumes. The Preservation Office is organized into two Units: Conservation and Reprographics (see chart). Because the libraries at Emory are decentralized, work flow is initiated through liaisons: five liaisons for general collections (one for each library) and three liaisons for special collections.

The primary focus of the conservation program is to maintain the collection for research use. The Conservation Unit provides centralized repair focusing on the general collection as well as the construction of protective enclosures for Emory Libraries' special collections materials. Binding preparation, labeling, and shelf preparation are done by units other than Preservation.

The work flow chart describes the treatment decision–making process. Items for repair are generated in different ways in the libraries. Most libraries' repair work is primarily use–driven, but the Health Science Center and Law libraries (both of which have large non–circulating collections) have staff go into the stacks on a prescribed schedule to review each shelf and pull volumes to be repaired. The volumes are reviewed by each library's liaison and retained for treatment by decentralized staff if the repair is simple, such as hinge tightening. If not, the item is routed to one of three places: the library binder; Collection Management; or Conservation. Volumes for repair are sent to Conservation on a weekly quota system: approximately 10 volumes per week per library. The volumes are brought to Conservation via an inter–campus truck delivery.

Items are reviewed, flagged for the appropriate treatment, and completed in batches. Any volumes meeting criteria specified by Special Collections (e.g., signed copies, pre–1900) are held for review by Special Collections staff. There is a one week turn–around time from arrival at the repair facility to delivery back to the library. Some items requiring extensive or more complicated treatment are kept for a short time longer. The staff are trained to do all types of routine treatments; items requiring non–routine treatment are handled by the Unit Supervisor or the most experienced staff.

Items referred to the Collection Management staff are reviewed by selectors for replacement or retention. If an item needing replacement is not found in reprint or is not commercially available in some form, the Preservation Office can act as the vendor of last resort to make a preservation photocopy of the item or send the item to a contractor for preservation microfilming.

Conservation is equipped to do all types of repairs except those involving chemical solvents due to the lack of a fume hood and a conservator. Decentralized liaisons are equipped with tools and supplies for minor repairs only (pamphlet binding, tip–ins, etc.). Conservation treated a total of 2,005 volumes in 1990/91, with the decentralized Units treating 3,019 volumes, for a grand total of 5,024 volumes treated. Conservation staff also provide workshops on care and handling for general library staff and train decentralized staff to perform simple repairs. Disaster teams are trained by the Conservation Unit Supervisor.

An item is rarely treated as an artifact, receiving single–item conservation treatment. Recently, however, a continuous program to treat special collections materials has been implemented for the first time at Emory. Each Emory library has been assigned one quarter during the academic year in which special collections items may be sent for one of the following treatments:

- encapsulation,
- construction of book cradles for exhibits,
- matting,
- construction of a protective enclosure (phase box, double–tray box, portfolio, envelope with sleeve, or platform box).

In addition, the library may request that Special Collections staff be trained to refurbish materials (dusting, interleaving, construction of polyester jackets).

CURRENT TECHNIQUES

SPINE REPAIR

Materials:
Bookcloth or buckram.
Lightweight Bristol board (for spine inlay).
Nylon ribbon (spine cap reinforcement).
PVA/wheat paste mixture.
Time: 20 minutes.
Number completed in fiscal year 1990/91: 1,147.

ENDSHEET REPLACEMENT

Materials:
Alkaline buffered endsheet or text papers of varying colors (whites and off–whites) and weights (70–80 pound).
PVA/wheat paste mixture.
Time: 8 minutes per endsheet.
Number completed in fiscal year 1990/91: 212.

NEW COVER

Materials:
Bookcloth or buckram.
Acid free Davey binder's board (0.70–0.90).
Lightweight Bristol board (spine inlay).
Nylon ribbon (spine cap reinforcement).
Super.
Alkaline buffered endsheets or text paper (70–80 pound).
PVA/wheat paste mixture.
Time: 45 minutes.
Number completed in fiscal year 1990/91: 42.

ENVELOPE WITH SLEEVE

Technique: Provides protection and minor support to items of less than 1/4 inch thickness.
Materials:
Commercially available alkaline buffered paper envelope (ungummed).
Alkaline buffered text paper, 70 pound for sleeve.
Time: 5 minutes.
Number completed in fiscal year 1990/91: 420.

POLYESTER JACKET

Technique: Used to protect the dust jacket for special collections materials, as well as items having vulnerable covering materials, such as suede.
Materials:
0.3 mil polyester.

Time: 10 minutes.

PHASE BOX

Technique: Used to protect items which are of a larger size or weight. Also suitable for housing a group of unbound materials of similar size (especially special collections materials). The phase box can be adapted to make a wedge–shaped enclosure, often needed for warped vellum bindings. Boxes are hot–stamped with author and title.

Materials:

0.040 or 0.060 lignin–free, alkaline buffered board.
PVA.
Brass rivets.
Waxed nylon thread.
Polyester washers.

Time: 45 minutes.

Number completed in fiscal year 1990/91: 20.

WRAPPER

Technique: Made especially for special collections materials. Provides protection and minor support to items of moderate weight and thickness (minimum thickness 3/8 inches, maximum thickness 2 inches).

Materials:

2–ply alkaline conservation board.
PVA/wheat paste mixture.

Time: 20–30 minutes.

Number completed in fiscal year 1990/91: 238.

ECONOMY PORTFOLIO

Technique: Used for items too thick to fit into an envelope with sleeve (more than 1/8 inch) but too thin for a wrapper (especially special collections materials).

Materials:

Lignin–free, alkaline buffered board (0.040 – 0.060).
Cotton ribbon (for ties).
Alkaline buffered map folder stock (0.010).
PVA/wheat paste mixture.

Time: 20 minutes.

Number completed in fiscal year 1990/91: 2.

COVERED PORTFOLIO

Technique: Same as economy portfolio, but covered in fabric to create a more formal presentation. Especially used for special collections materials of great value.

Materials:

Bookcloth or linen.
Lignin–free, alkaline buffered board (0.040 – 0.060).
Lightweight Bristol board (spine inlay).
Cotton ribbon (for ties).
Alkaline buffered map folder stock (0.010).
PVA/wheat paste mixture.

Time: 45 minutes.

Number completed in fiscal year 1990/91: 62.

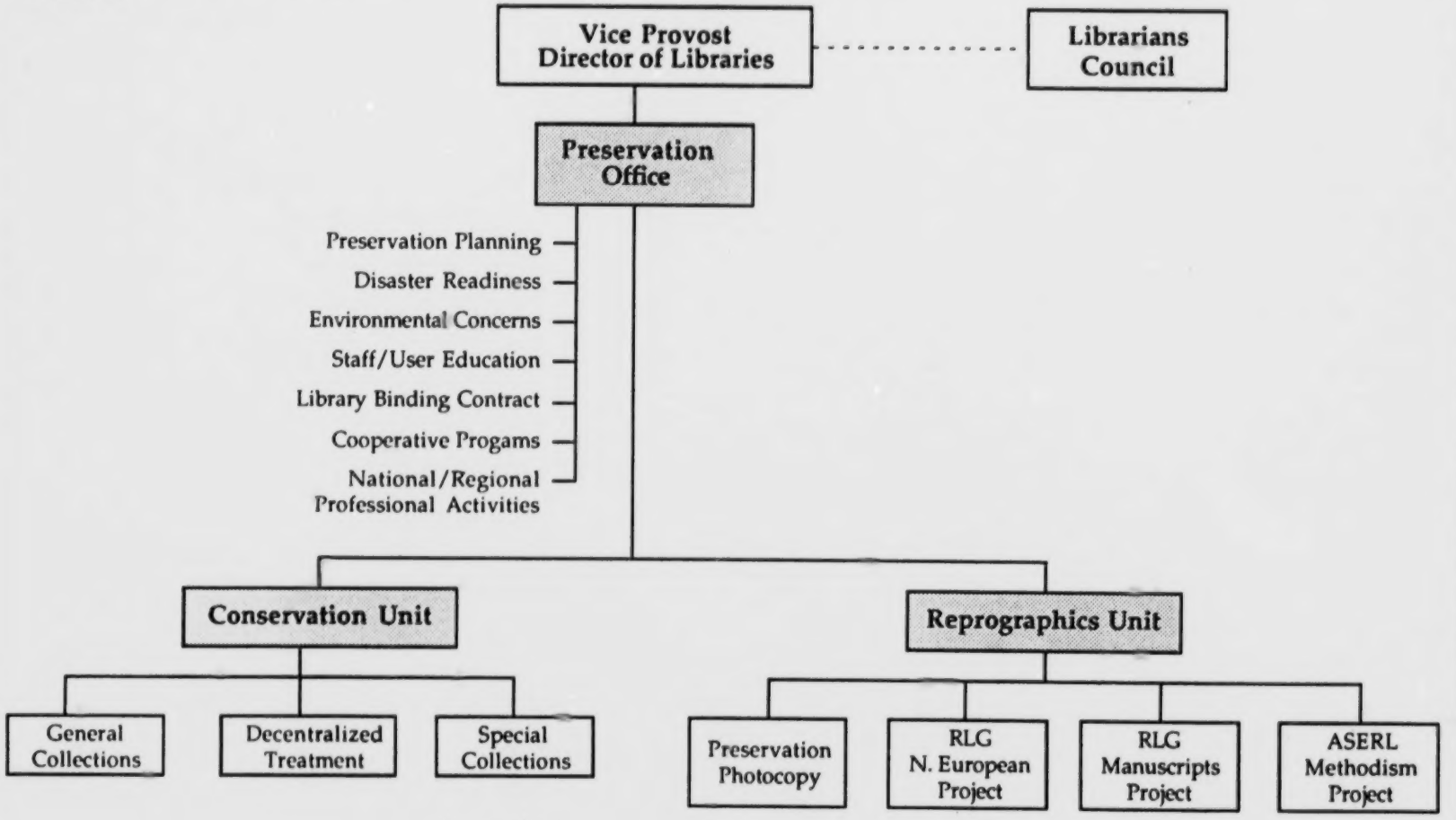
DOUBLE TRAY BOX (CLAM–SHELL BOX)

Technique: Used for special collections items which have high use, extreme value, or items with fragile cover materials such as suede, silk, or elaborate gold tooling.
Materials:
Bookcloth or buckram.
Acid free Davey binder's board (0.70 – 0.90).
Alkaline buffered endsheets or text paper (80 lb).
PVA adhesive.
Time: 90 minutes.
Number completed in fiscal year 1990/91: 13.

BOOK CRADLES — FOR OPEN BOOKS, FOR UNBALANCED OPENING, AND FOR CLOSED BOOKS
Technique:
Open book version: used for books in exhibitions which will be open to display a particular leaf. Custom designed to fully support the cover boards. Angle of opening can vary depending on fragility of book's binding.
Unbalanced opening version: used for books in exhibitions which will be open to display a particular leaf. Usually a frontis illustration or table of contents. Custom designed to fully support the cover boards, open pages, and closed remainder of textblock.
Closed version: used for books in exhibitions which will be closed. Custom designed to fully support the full depth of cover boards and textblock.
Materials:
Lignin–free, alkaline buffered board (.040 – .060) or 4–ply conservation board.
PVA/wheat paste mixture.
Time: 15, 20, and 40 minutes, respectively.
Number completed in fiscal year 1990/91: 144.

ORGANIZATION FOR PRESERVATION

Emory University Libraries
1992/93



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Emory Libraries
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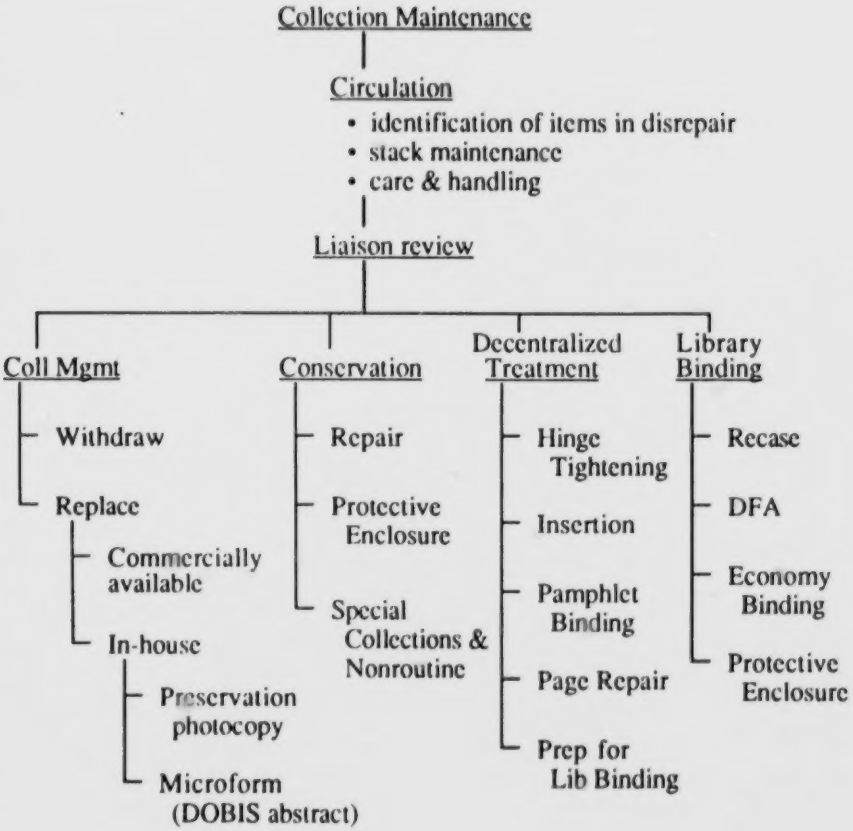

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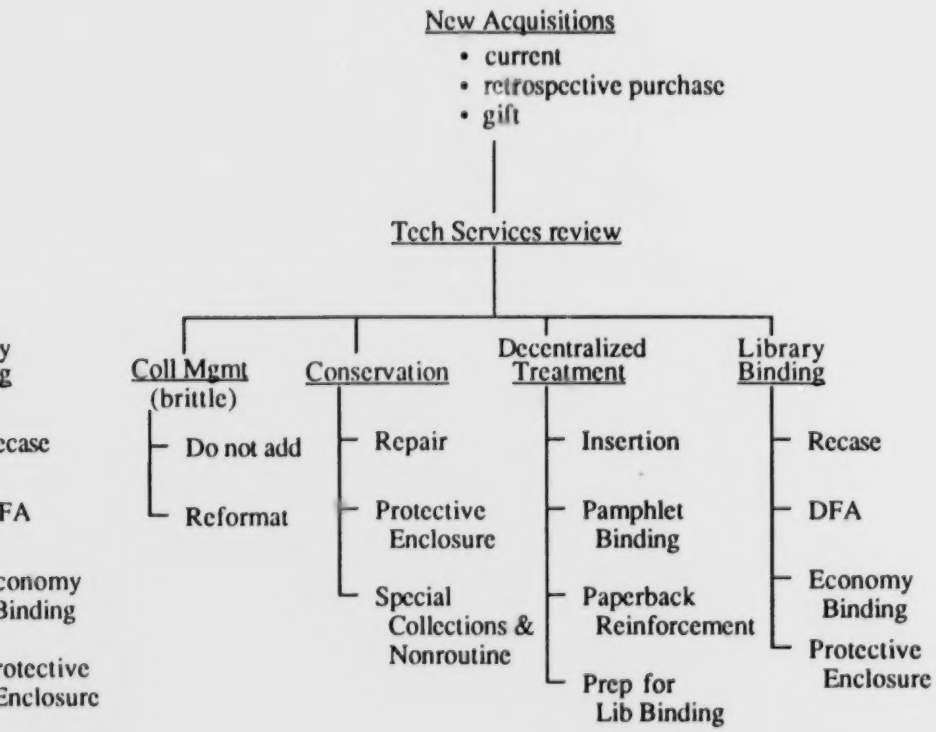


Institutional Profile: Julia Rogers Library, Goucher College

Sydney Roby, Preservation Librarian & Elora Cunningham, Preservation Assistant
Towson, Maryland

BACKGROUND (EXCERPTED FROM THE 1992–93 ACADEMIC CATALOGUE)

The Julia Rogers Library Includes a collection of 258,000 volumes and over 1,000 periodical subscriptions, along with extensive audiovisual materials and computerized reference tools. The library houses its collection on three floors of open shelves. The Decker Center for Information Technology's computer facilities are on the second floor. Open 94 hours a week, the library includes space for 350 people at tables, at carrels, and in group study rooms. Librarians offer research assistance to students, faculty, and staff, and training is available in the use of on–line data bases.

There are several special collections located in the Rare Book Room. These include the Jane Austen, Mark Twain and H. L. Mencken Collections, the college archives, and the history of costume. The library is also a U. S. Government Depository, with over 100,000 documents.

Goucher participates in OCLC, an international data base that provides computer access to the resources of 13,000 member libraries. Materials may be borrowed on interlibrary loan or used in the libraries of most area institutions.

HISTORY OF PRESERVATION AT GOUCHER

In the early 1950's the Friends of the Library initiated a volunteer book mending group, the Monday Morning Menders. There were standing presses, board shears, sewing frames and other equipment on hand (source and use unknown), and early repairs were made using book cloth and "Magic Mend" (casein) adhesive. As they became available, self–adhesive book cloths were used to cover damaged spines and corners, and stiff gummed cloth strips were used inside the books to hold in loose pages. When the building was renovated in 1986 the volunteer mending program was phased out and the bindery equipment was discarded. Oversight of mending operations was added to the many responsibilities of Lillie Brinkley, Technical Services Assistant. She trained the students to apply a better quality of tape to the books, and these repairs were carried out until late 1989. A new Director, Nancy Magnuson, arrived in 1987 from Haverford College where there was an active preservation program under the guidance of Don Rash, so she was sensitive to preservation issues. She made sure that books were shelved and handled properly, and began the long campaign to install an HVAC system in an old wing of the library. Nancy began to remove especially shabby books from the shelves, but it soon became apparent that a larger operation was needed. She initiated the current policy of repairing damaged books as they circulate, and a substantial backlog (about 2,000 volumes) ensued. Nancy contacted Sydney Roby, a Preservation Consultant, in 1989 and hired her to conduct a condition survey and to train the students in book repair. The library bought the necessary equipment and supplies, and students began to mend books. Sydney became the Special Collections/Preservation Librarian and the program expanded. The staff has mended about 2,000 books since June 1991.

THE PROGRAM

The Preservation Program incorporates all departments, but is primarily run by Sydney, who has both an M. S. in Library Science and the Advanced Certificate in Preservation Administration from Columbia University, and has been a bookbinder since 1974. She trains and oversees the students who do the mending, but most of the teaching and supervision is currently performed by an alumna, Lori Cunningham, who received intensive training by Sydney for over a year. The Program was designed to be self–perpetuating, so that after a few years each student should have learned all aspects of the program and be able to train in–coming students. We hope to find a student out of each group of trainees who is particularly

interested in preservation and has the ability both to teach and supervise – so far this approach has worked out.

Sydney is ultimately responsible for treatment decisions and routing, but the more advanced students learn the decision process and most decisions are made by Lori with the students–in–training. Individuals are encouraged to question the initial decisions, especially since unseen structural problems may be uncovered during mending.

There are two mending areas. The main bindery, upstairs, is roomy, light, and airy with a great view. The second one, in the Rare Book Room, incorporates the personal equipment of the Preservation Librarian, who is also the Special Collections Librarian and Archivist. A third area, used by Technical Services, processes books sent to the commercial binderies, laminates or puts materials into pamphlet covers or book jackets, letters spines and applies call numbers. This operation is separate, although the Preservation Librarian specifies binding instructions for older materials sent to commercial binderies. Technical Services staff make decisions about the treatment of new materials.

The routing slips were developed by the library Director, Nancy Magnuson, and are color–keyed for efficiency. Blue slips are used for quick repairs, to be done immediately so that the books can go back to the shelves. We keep loose track of the order in which books come in to be mended so they don't sit around too long. Also, if a book is needed we mend it immediately. Golden yellow slips signify more extensive repairs, light yellow designates boxes, and green slips route materials to Technical Services to be sent to the bindery or to be re–lettered.

Damaged materials are pulled out of circulation as they are re–shelved, by the Readers Services staff, or sometimes before they are added (as in the case of gift books) by an Acquisitions person. Books are mended before they are sent through Interlibrary Loan. If books borrowed from another institution are damaged they are mended before being returned, with the institution's permission. Some books are transferred from the general collections to the rare book room. If they have been repaired with tape before, and need to be mended again, then we repair them before transfer. For the most part the rare books are safely housed and left alone.

We don't throw very much away. Badly deteriorated volumes are boxed in lightweight cardboard, but few of the older ones can be replaced. This problem will have to be addressed, particularly where reference materials and journals are involved. We would like to initiate a cooperative microfilming process in the future. Photocopying is an option, but time consuming, so we consult a subject specialist to determine the suitability of retention. We routinely photocopy mangled pages rather than mend them, unless there is any reason to believe that the volume may have artifactual value.

Pamphlets continue to be problematic. They have been put in envelopes, but they flop around. We have stuck them into pam covers with the traditional gummed cloth, but the covers detach and the text falls out. In addition, pages break along the hard edge of the cloth, so we have used pinking shears to soften the edge. It is better not to apply the adhesive directly to the pamphlet. Sewing through the fold eliminates the problem of detaching covers, and if a blank outer cover is included, the adhesive can be stuck to it. These measures are time–consuming and not really satisfactory. In the future we are going to try a new product — a clear mylar pamphlet cover with narrow adhesive strips at top and bottom. The strips turn–in and are affixed to the middle of the pamphlet. The covers are clear so titling will be unnecessary, but the self–adhesive strips cannot be removed without damage to the paper.

CURRENT TECHNIQUES

Staff	*Starting date*
Sydney Roby, Preservation Librarian	August 1989
Elora Cunningham. Preservation Assistant	February 1991
Michelle LaPenna, Post–Graduate	July 1991
Maya Adams	September 1991
Desiree Care	June 1990

Staff (cont.)	*Starting date (cont.)*
Cindy Fleischman	January 1992
Christa Gagliano	September 1991
Louis Pompanio	January 1992

BOX

George Sand. *Elle et Lui.* [846.5 521Je]; (h. 7.25 inches x w. 5.00 inches).

Problem: A box is constructed when the paper is very brittle, or when the sewing is broken in many places and the paper is too brittle to resew. Also, if the book does not have a high circulation rate, we find it is not worth the investment of resources for extensive repairs. If the binding is rare or of value, we would rather make a box to protect the book than alter the original and lower its value.

Adhesives: PVA Jade 403 is used to adhere the two strips of cardboard together.

Materials:

0.020 acid free map folder stock.

Time: 20 minutes.

Number: 717 during June 1991 – May 1992.

Comments: When we resort to boxing materials, we no longer allow them to circulate.

REBACK — BOARDS ATTACHED

Harry Kurz. *European Characters in French Drama of the 18th Century.* [842.9 K96]. (h. 11 inches x w. 8.25 inches).

Problem: We do a basic reback on books when the boards are attached and the lining cloth is strong, the spine is detached in varying degrees and there is usually some tearing at the joint. Internally the book may be "shaken" with the original backing cloth visible between the signatures, and the sewing is at risk of breaking.

Structure: We try to save as much of the original binding as possible, including the endpapers and boards; we mount the old spine on the new cloth if it can be salvaged. After stripping away old lining paper, we apply new adhesive to the spine of the text block and attach a new lining paper. We make a new cloth spine using a lightweight inlay and buckram strips and the new spine is attached under the old book cloth.

Adhesives: PVA Jade 403 is used on the spine to adhere new lining paper, it is also used to make and put into place the new spine.

Materials: Since the program began, we have been searching for the perfect papers to be used as a backing paper and an inlay. We used India Office Paper, a handmade rag paper, as a backing paper but it was recently discontinued. We are now using Strathmore 500, 140 pound, which when moistened, it easily molds to the back of any book. As an inlay, we are currently using Lenox 100. It has a weight and texture that is perfect for a form fitting spine without excessive stiffness. We purchase 4 inches buckram strips in 5 colors, and we also use yards of buckram to enhance our selections of colors and sizes.

Cost: The average cost of supplies per book is $2.50 which includes materials for all of our rebacks, corners and page repairs.

Time: 1–1.5 hours.

Number: 834 rebacks during June 1991 – May 1992. This reflects the number of basic rebacks and rebacks where it has been necessary to reattach the boards.

Comments: We try to fix everything within our capacity, but our philosophy is to make each book as usable as possible in the most cost efficient manner. For example, to save resources we do not always put new endsheets on a book because it is not necessary in order for the book to stay in one piece and be usable. Nor do we always mend every slight tear in every volume we repair.

REBACK — ATTACH BOARDS

Phyllis Ackerman. *Wallpaper: Its History, Design and Use.* [745 A18]. (h. 8.25 inches x w. 5.5 inches).

Problem: Often when we examine a book, the boards are detached or have been reattached with tape in previous mending efforts. Also, even if the original boards are attached, a closer inspection will reveal that the lining cloth is often weak and very brittle. When we determine that the boards are in danger of falling off, we then replace the lining cloth and reattach the boards.

Structure: The process is similar to the basic reback, but before the back is lined with new backing paper, we apply a cotton backliner which overhangs the spine on each side by about one inch. After the new backing materials are dry, the boards are reattached using the endpapers on the boards as a guide for proper placement; we make sure that a joint exists when applicable. If the book has "nice" endpapers, we try to lift the papers and place the backing cloth directly on the board and PVA the endpaper down over the new backing cloth. We do not however take the time to do this with most of our books, and many endpapers have already been damaged beyond repair by the tape previously used in mending.

Adhesives: PVA Jade 403 is applied to adhere backing cloth and lining paper. PVA is also used to attach the boards and make and apply the new spine.

Materials:

100% cotton backliner.
Strathmore 500, 140 pound as a backing paper.
Lenox 100 as inlay.
Buckram strips.

Cost: $2.50 for all supplies used in a reback.

Time: 1–1.5 hours.

Number: 834 during June 1991 – May 1992.

SQUAREBACK REBACK

Dagmar Starcke. *Hans Christian Andersen's Alphabet.* [J782.1 M93zNa]. (h. 4.75 inches x w. 4.75 inches).

Problem: The same guidelines and procedures of rebacking are used for squareback bindings. Most squareback bindings begin fraying along the edges of the cardboard inlay; they must then have new spines made.

Structure: This tiny book had a paper binding which was ripped along the joint and the boards were detached. The book was lined with backing cloth, which extends over the spine, and lining paper. Since the endpapers have writing on them, they were lifted from the boards and the backing cloth was adhered to the board; the end sheets were then pasted back down over the backing cloth. The new spine is constructed of buckram and medium weight binder's board, which is cut to the thickness and height of the book. New corners were not put on the book because the boards are not exposed; although the original covers are faded and marked, the paper corners are intact.

Adhesives: PVA Jade 403 is used for lining the back, attaching the boards and new spine. Wheat paste was used to stick the original endpapers back onto the boards.

Materials:

100% cotton backliner.
India Office paper as a lining paper.
Buckram.
Medium–weight binder's board for the new spine.

Cost of Materials: $2.50.

Time: 1 hour.

Number: 834 rebacks during June 1991 – May 1992 Separate statistics for squareback rebacks were not kept.

REBACK — PAPER BINDING

A. Morgan and W. Vickery. *Plays of Mr. William Shakespeare.* [826.31 Iti]. (h. 8.75 inches x w. 6.25 inches).

Problem: A book that has been bound with paper can be rebacked using buckram. In the decision making process, we follow the same guidelines for paper bound books as we do for cloth bound ones.

Structure: This book had to have the boards reattached, so the usual procedures were followed. With this book, however, the paper covering the boards could not be lifted so the new buckram spine and comers were placed over the paper. The book had many loose and torn pages which were repaired with Japanese paper and wheat paste. We chose to invest the time to mend and guard in these pages rather than photocopy because of the book's subject. We try to keep our Shakespeare books in circulation, and this one belongs to a limited edition set.

Adhesives: PVA Jade 403 for the rebacking process; wheat paste for the page repair.

Materials:

100% cotton backliner.
India Office paper for backing.
Arches Cover White as an inlay.
Buckram strips.
Sekishu Japanese paper.

Cost of Materials: $2.50.

Time: 2 hours.

Number: 834 rebacks during June 1991 – May 1992. Our statistics do not specify the type of reback.

PAPER REBACK

Apphonse Daudet. *The Three Low Masses.* [846.5 D23Jth]. (h. 7.5 inches x w. 6.25 inches).

Problem: This book had a squareback paper binding which was torn along the joint. The lining cloth was weak so we removed the boards.

Structure: This book was lined with the backing cloth and lining paper, and a new spine was made. The paper covering the boards was lifted so that the new spine could be placed directly onto the board. Since this is a squareback binding, the new spine does not have a paper inlay, but one made of medium binder's board that was cut to the height and width of the book. The paper of the new spine is lined with a piece of backing cloth to give it strength and durability. Before the boards were reattached, the end papers on the boards were lifted so that the backing cloth would not obstruct the marbling. The mitered paper comers were placed under the original paper which covered the boards.

Adhesives: PVA Jade 403 is used for lining the back; constructing the new spine; attaching the boards, new spine and comers; and laying down the original paper.

Materials:

Strathmore 500, 140 pound as lining paper.
100% cotton backliner.
Medium–weight binder's board for the squareback spine.
100% cotton fiber Strathmore charcoal paper.

Time: 1.5 hours.

Number: 1 during June 1991 – May 1992.

Comments: When we first looked at this book in the decision making process, it was evident that it needed to be rebacked, but we decided to try a paper reback rather than

using buckram. After adhering the board inlay to the paper, attempting to attach the new spine was more difficult than anticipated. On the first two attempts we put holes through the paper with a bone folder while defining the joint. We then decided to reinforce the paper with a piece of backing cloth before attaching the cardboard inlay. This gave the new spine strength while maintaining the paper appearance.

REBACK — REMOVE LEATHER

Lord Braybrooke. *Diary and Correspondence of Samuel Pepys.* [942.06 P42 v.l]. (h. 8.5 inches x w. 5.75 inches).

Problem: Since there had been no preventative maintenance through the years, the leather books in the collection are powdering. Not only is the leather destroyed, but it also stains the books which are shelved next to those with deteriorating bindings.

Structure: Instead of replacing leather, we use buckram to reback the book. This saves the investment of resources involved in leather binding and is appropriate for the majority of the books in the general collection. The old leather is scraped off completely, down to the board; if the new buckram spine were adhered directly to the leather, it would peel off with the outer layer of leather. When the leather is removed from the binding, the boards usually have to be reattached with backing cloth. The leather comers are also removed and replaced with buckram.

Adhesives: PVA Jade 403 is used to adhere the backing cloth and paper to the back of the text block. It is also used to construct the new spine and to place it on the book.

Materials:

100% cotton backliner.
Strathmore 500, 140 pound paper for backing.
Lenox 100 for making a new spine.
Buckram strips.

Cost of Materials: $2.50.

Number: 834 rebacks during June 1991 – May 1992. Our statistics do not specify the type of reback.

Time: 1 hour.

Comments: This book had been previously mended with tape which damaged the binding. As the student removed the leather and tape, the end sheet on the back cover was damaged.

HEADCAP

R. Sealock & P. Seely. *Bibliography of Place Name Literature.* [929.4Q S43]. (h. 8.5 inches x w. 5.5 inches).

Problem: The headcap area of a book probably receives more stress than any other part of a book. As people incorrectly pull a book from a shelf, they yank on the headcap; after this has been done repeatedly, the area begins to tear and fray. The book, however, does not always need to be rebacked, so we have developed a quick repair which strengthens the headcap areas.

Structure: The original cloth around the headcap area is sliced from the board and spine. New cloth is then inserted under the old, at the headcap area only. PVA adheres the new cloth to the joint and board, leaving the spine free of adhesives and cloth. The old cloth is then laid back down over the new.

Adhesives: PVA Jade 403 is applied at the joint and on the board to adhere the new cloth and is used to stick down the old cloth.

Materials:

The only material used is a small scrap of buckram.

Time: 10 minutes.

Number: 60 during June 1991 – May 1992.

Comments: When the repair is completed, it is often difficult to tell that a repair had been made. It's fast, easy and adds incredible strength to the spine of the book.

TIGHTEN JOINT

Marvin Kohl. *Beneficent Euthanasia.* [174.2 B464] (h. 9 inches x w. 6 inches).

Problem: Often the joints of a book are loose and the text block seems to flap around in the case, but the binding is in good condition; internally, the text block is not shaken. When we receive a book in this condition, we simply tighten the joint.

Structure: We apply PVA to a small wooden dowel and carefully stick it into both joints of the book. The book is then tightened in the press until the PVA dries.

Adhesives: PVA Jade 403 is applied to the inside of the joint.

Materials: n/a.

Time: 5 minutes.

Number: 71 during June 1991 – May 1992.

HOLLOW TUBE

J. L. Martin. *La Narrativa de Vargas Llosa.* [868.6 V2975m]. (h. 7.5 inches x w. 5 inches).

Problem: We've had books in which the casing is in very good condition but is detached from the text block. Since there is no need to reback the book, we simply make a hollow tube and adhere it back to the back of the text block and the original inlay of the case. Another option would be lining the spine with backing cloth and casing it in, but the hollow tube requires less time and fewer resources, and the repair is virtually invisible.

Structure: Using acid free paper, a tube is made to fit the height and width of the back of the text block. It is then adhered to the spine and the book back.

Adhesives: PVA Jade 403 is used to construct the tube and adhere the book.

Materials:

Perma/Dur Bond acid free paper.

Cost of Repair: $ 0.05.

Time: 10 minutes.

Number: Statistics have not been kept on the number of tubes we have completed. We have just started using this as a frequent quick repair.

Comments: Most books which are repaired with a hollow tube will then have to be tightened; both repairs are invisible and no damage is done to the original binding.

PAGE REPAIR

Mary Field Parton. *Autobiography of Mother Tones.* [331.0973 J78R]. (h. 7.5 inches x w. 5.25 inches).

Problem: This volume was placed on reserve and was a candidate for rebacking, so we mended the pages to ensure that the book could stand up to heavy usage. In addition, this book has an example of every type of page mending that we do.

Structure: Many pages throughout the book have been mended. Following is a list of our types of repair and pages which have examples:

INSERTING PAGES

1. The endpapers were constructed from Rives lightweight and tipped along the shoulder.
2. The first plate was extended with acid free paper and guarded into the book. We use this method on most plates because wheat paste tends to stain the shiny paper. Also since most plates are heavier and stiffer than text paper, the acid free paper gives it more flexibility.
3. The first three pages of the text were mended with repaired Japanese paper and then guarded in.

MENDING PAGES

1. On page 242, a horizontal tear had been mended with wheat paste only. The torn fibers on each side of the tear had enough overlap for the paste to make the repair.
2. If the fibers do not overlap and the tear does not extend into the text, Japanese paper and wheat paste must be used for the repair. An example of this is at the bottom of page 230 where the paper began cracking along the inner margin.
3. The vertical tear on page 239 was mended with heat–set tissue. There was not enough overlap in the fibers to use only wheat paste and the tear extended deep into the text of the page.
4. There were a few pages throughout the text that were partly missing and repairs were made to rebuild the pages. On page 145, the missing piece had been replaced by Rives lightweight, torn to fit the space; it was adhered to the page by a thin piece of Japanese paper and wheat paste. On page 175, the bottom comer was rebuilt using Sekishu Japanese paper and wheat paste.

Adhesives: PVA Jade 403 was used for the rebacking process; wheat paste was used for the page repair.

Materials:

Backliner.
Lining paper.
Buckram strips.
Inlay.
Rives lightweight.
Kizukishi & Sekishu Japanese papers.
Perma/Dur acid free bond paper.

Cost of Materials: $3.00.

Time: 2 hours.

Number: paper repairs 612 inserts 898 during June 1991 – May 1992.

Comments: Again, we took the time and resources to repair this volume because it is a first edition autobiography. Also, we often try advanced techniques as a learning experience for the student workers.

RECASE

Anatole France. *The Gods are Athirst*. [846.5 F81JdBj]. (h. 7.25 inches x w. 4.5 inches).

Problem: If the boards of a book are deteriorated beyond repair or the cloth or paper bindings are destroyed, we think about sending the book to a commercial bindery; with many of the older books, however, the paper is too brittle for a mechanized bindery to handle. We will then do an in–house recase in which we can construct new boards and endsheets and make necessary repairs. We do two kinds of recases: full cloth, or half cloth with paper sides.

Structure: This book had leather over a very thin board binding and the covers were torn. Instead of sending the book out, we decided to make a full cloth case of navy buckram so that we could save the original decorative cover. After casing in the book, the old endpapers were attached over the cloth and turn–in. We soaked the original endpapers from the old boards to place on the new covers. The book was then lined with backing cloth and paper.

Adhesives: PVA Jade 403 was used for lining the back, making the case, casing in and mounting the old cover. To mount the endsheets to the new boards, we used a wheat paste instead of PVA which might have stained the fragile paper.

Materials:

100% cotton backliner.
Strathmore 500, 140 pound as a lining paper.
Medium weight binder's board.

American buckram.
Lenox 100 for the inlay.
Cost of Materials: $1.50 – 2.00.
Time: 2 hours.
Number: 50 during June 1991 – May 1992.
Comments: This repair was done in March 1992 and since that time the leather cover mounted on the front is starting to peel. We now know that maybe it was not a great idea to save the original cover.

REBIND

Joseph Aronson. *The Encyclopedia of Furniture.* [749 A76]. (h. 11 inches x w. 8.25 inches).
Problem: The cloth on this book had been ripped when "mending" tape was removed. We thought about sending the book to the bindery, but feared damage to the plates if the spine was cut.
Structure: The first few pages in the book were damaged and quite brittle. Instead of investing the time to repair the damaged pages with Japanese paper, we chose to photocopy the pages and guard them in. New endsheets were placed in the book and trimmed to the correct size. The book was lined with backing cloth extending over the spine, and lining paper. A case was made using binder's board, inlay, buckram, and paper.
Adhesives: PVA Jade 403 was used to tip–in the photocopied pages, line the back and construct the case.
Materials:
100% cotton backliner.
India Office paper for backing.
Perma/Dur bond acid free paper for photocopying.
medium–weight binder's board.
Arches Cover White as an inlay.
Buckram strips.
Rives Lightweight for endpapers.
100% cotton fiber Strathmore charcoal paper for sides.
Cost of Materials: $2.00.
Time: 2 hours.
Number: 50 recases during June 1991– May 1992.
Comments: Buckram and other book cloths are substantially more expensive than paper, so we use paper sides on larger books.

PHOTOCOPY AND BINDING

Elizabeth Sutherland. *Letters from Mississippi.* [323.4 L651]. (h. 8.5 inches x w. 5 inches).
Problem: This book was needed immediately for reserve use before a reading at the college. The volume is out of print, so we had another institution photocopy their edition and send it to us. Since we wanted to add it to our collection, we decided to have the photocopy bound.
Structure: Because of the way they photocopied, the pages had to be folded with the crease at the outer margin; this made sewing the book through the fold impossible. We decided to have the book Vello–bound at a local copy center; the endsheets were bound with the text block. The book was lined and cased into a half cloth/paper binding which has a straight back spine. The cardboard spine is the same dimensions as the back of the Vello–bound text block.
Adhesives: PVA Jade 403 was used for lining the back, making the case, casing in, and adhering the endsheets to the boards.
Materials:

India Office Paper was used as a backing paper,
100% cotton backliner,
Medium weight binder's board.
American buckram strips.
100% cotton fiber Strathmore charcoal paper for covering the boards.

Cost of Materials: The Vello–binding cost $1.00, and the materials for the recase averages $1.50.

Time: 2 hours.

Number: 1 during June 1991 – May 1992.

Comments: The book does not have very good openability, but is quite sufficient; and the Vello–binding is a fast alternative for binding.

SEWING

Joel Chandler–Harris. Free Toe and other Georgian Sketches. [816 H314Jf]. (h. 7.25 inches x w. 4.25 inches).

Problem: This book came to us in three or four pieces, and we were hesitant about sending it to a commercial bindery because we didn't want to lose the cover. The paper was in flexible shape, so we decided to sew the entire book.

Structure: The book was completely disbound, pages were repaired, and it was sewn through the fold on tapes. The book was then rebacked with new comers.

Adhesives: PVA Jade 403 was used for rebacking and wheat paste was used for mending the pages.

Materials:

0.25 inch Dutch linen sewing tape.
Barbour's 100% Irish linen thread 18/3.
100% cotton backliner.
Strathmore 500 140 pound for lining paper.
American buckram strips.
Lenox 100 for inlay.

Cost of Materials: $2.50.

Time: 1.5 hours.

Number: 834 rebacks. We've just recently started this type of extensive repair. Accurate statistics on the number of volumes sewn have not been kept; however, we now see the need to record this number.

REBACK — REPAIR SEWING, PHOTOCOPY

Charlotte Bronte. *Jane Eyre.* [826.5 B86Jj 1890]. (h. 8 inches x w. 5.25 inches).

Problem: Although this book is an example of our many different repairs, it is still a reback which needed the boards reattached. The book had been repaired with tape and we wanted to retain the nice binding. The joint was tearing along the front cover and the last signature was badly torn.

Structure: The last signature was removed from the book and some of the leaves were photocopied because the previous clear tape repair had dried out. We were able to salvage some of the leaves in the signature and strengthen their centers with Japanese paper. Rather than taking the time to attach the signature to the sewing of the rest of the book, the signature was simply pam–sewn and tipped to the text block. The book was then lined and rebacked.

Adhesives: PVA Jade 403 was used to tip in the last signature and in the rebacking process. Wheat paste was used for the page repair.

Materials:

Photocopied on acid free Perma/Dur bond sheets.
Barbour's 100% Irish Linen thread 18/3

100% cotton backliner.
India Office paper used for backing.
Arches Cover White as an inlay.
Buckram strips.
Sekishu Japanese paper.
Cost of Materials: $2.50 average cost of reback.
Time: 1.5 hours.
Number: 834 rebacks during June 1991 – May 1992.
Comments: Specific statistics were not kept on the number of pages we photocopied. The stains on the inside covers are remnants of mending tape.

REINFORCE BINDING

James Parton. *Daughters of Genius.* [305.4092 P274d]. (h. 7.25 inches x w. 4.5 inches).
Problem: This book had a very nice binding, but the text block had detached from the case and the book was shaken. We did not want to cut away the decoration on the spine, and the original cloth was still strong, not frayed or torn. We decided to reinforce the original binding.
Structure: The turn–ins and endsheets were lifted, and a strip of backing cloth was cut to the height of the boards. It overlaps onto each board by 3/4 inches, and was placed along the spine. The text block was lined with cloth and paper, then cased into the binding. The endsheets were then adhered to the cloth.
Adhesives: PVA Jade 403 used in lining the back of the text block and the binding.
Materials:
100% cotton backliner.
Strathmore lining paper.
Cost of Materials: $2.50.
Time: 1 hour.
Number: 1.

Q–BIND

Jerome Hellmuth. *Learning Disorders.* [371.9 u38 v. 1&2]. (h. 9.75 inches x w. 7.5 inches).
Problem: We often have materials which are used infrequently and remain intact, but have paper covers that fall off after being used even once. Instead of sending these materials to a bindery, we've come up with a way to "quick bind" them, which gives the volume strength and holds everything together.
Structure: A Q–bind is simply a tightback half cloth binding with cardboard sides and comers. The original covers are tipped back on with acid free paper, and the book cloth is adhered directly to the spine; the card board sides are then attached to the cloth.
Adhesives: PVA Jade 403 is used to tip on original covers and attach the cloth and cardboard.
Materials:
Perma/Dur bond acid free paper.
Buckram strips.
Lightweight cardboard.
Cost of Materials: $ 0.75.
Time: 20 minutes.
Number: 82 from June '91 – May '92.
Comments: A Q–bind works for things which are used infrequently. We used this board because we had a supply of it for which there is no other purpose in the library.

Harvard University
Widener Library Conservation Services: Institutional Profile

Nancy Schrock, Conservation Consultant to the Harvard College Library
David Moore, Supervisor of Conservation Services, Widener Library
Cambridge, Massachusetts

OVERVIEW

The materials prepared for the June 8th meeting represent the type of work done by Conservation Services in Widener Library, the largest library in a decentralized system of research libraries within Harvard University. Widener houses 3.5 million volumes in the humanities and social sciences. Rare books and special collections are housed in the Houghton Library as well as other research libraries and are not treated by Widener's facility.

Widener has repaired collections throughout its history. During the 1980's, the facility changed its approach from "quick repair" to fuller conservation treatment, modifying both its materials and its techniques to reflect changes in library conservation. Doris Freitag provided guidance in her capacity as Book Conservator for the Harvard University Library. The current Preservation Department was established in November 1990 and is headed by Carolyn Clark Morrow, Malloy–Rabinowitz Preservation Librarian. The Department consists of four divisions:

- Binding and Preparation;
- Conservation Services;
- Photographic Services;
- Preservation Review.

The Department is in the process of expanding its collections conservation program and coordinating its activities with other Harvard libraries, aided by a conservation needs assessment prepared by Nancy Schrock, Conservation Consultant, during 1991–92. Beginning in October 1992, a conservation laboratory under the direction of Chief Conservator Nicholas Pickwoad will serve the artifact conservation needs of libraries throughout the University. The lab will coordinate its activities with collections conservation programs system–wide.

Conservation Services in Widener is supervised by a collections conservator and staffed by conservation technicians for a total of 3.5 FTE. The permanent staff are experienced so they are able to perform all of the treatments currently done in Widener. Students and part–time employees provide, on average, an additional 25 hours/week. The staff received their training in a variety of ways: formal training in Europe, in–house training and experience, apprenticeships, and the North Bennett Street program. Staff also attend local workshops on conservation or bookbinding topics. Additional formal training will become available when the conservation laboratory opens.

Candidates for treatment are identified on an item–by–item basis by the Preservation Review Librarian, who receives damaged items following circulation and routes them for binding, reformatting (both microfilm and photocopy), or in–house repair. (See the flow chart for a description of this process). The average turn–around time for repair is 2–3 weeks with rush service available to the Reading Room and Interlibrary Loan. At the moment, the staff is able to keep up with demand.

Conservation Services is also developing an approach toward treating whole collections and categories of materials. During 1991–92, the staff conducted its first en masse treatment of a collection of 12,000 Widener volumes that were being re–catalogued in preparation for shipment to the Harvard Depository, the off–site storage repository. The project involved a survey of condition, analysis of needs, and implementation of a range of treatments, including refurbishing, contract binding and conservation services, and deacidification of selected

illustrated volumes. The mass deacidification program in Widener will be expanded in FY93 to include treatment of books scheduled for recasing or repair.

EXAMPLE OF COLLECTIONS CONSERVATION GUIDELINES AT WIDENER LIBRARY: CRITERIA FOR TREATMENT OF CLOTH CASE BINDINGS IN CONSERVATION SERVICES

The following is a draft of the type of guidelines that are being developed to deal on the collections level with specific categories of research material found in the Harvard College Library. The guidelines include a historic justification and recommended treatment. Books may be deacidified prior to treatment, depending upon paper type and condition.

Pre–1820/30 (hand binding) Prior to 1830, bookbinding was a hand craft, separate from the printing and publishing trades. Bindings were not consistent for all copies of a book, and individual books can provide evidence about binding history, ownership, and provenance.

Recommended treatment These should be reviewed carefully by a subject specialist before being rebound or repaired by a collections conservator. Treatment by a rare book conservator or boxing may sometimes be more appropriate

1830–1900/10 (nineteenth century edition binding) After 1830, bookbinding gradually became mechanized to keep pace with the demand for printing. Publishers' edition bindings replaced hand bindings that were made to order for the individual owner or bookseller. Bookbinding was mechanized slowly and, the nineteenth century edition binding retained elements of handwork well into the early part of the twentieth century. Collections conservation repair is recommended for these materials because the conservator or technician can respond to the irregularities of hand sewing and shaping of the original binding, retain evidence of original craftsmanship, and create a sound structure for long–term preservation. Commercial library binding is not appropriate because it is made to handle the perfectly square machine–made text blocks of twentieth century technology. Machine backing and buckram bindings are overly rigid and can damage the more fragile paper of older books, as well as being unsympathetic with the appearance of nineteenth century design.

Recommended treatment Collections conservation repair, saving the original bindings; boxing; or rebinding in–house with new endpapers and cloth case.

Post 1900/1910 (machine–made case bindings) By the early twentieth century, all the processes of bookbinding had been mechanized. Since then, developments have focused on making the technology more efficient and faster through increased automation. Products of power machinery originally, these books can withstand standard machine procedures used by the library binder. Since design has been transferred from the stamped cloth cover to the dust jacket, it is usually not important to save the original covers. The exact cut–off date for defining this category of material is up for debate. It could be 1900 with the introduction of the casing–in machine, 1910 assuming it took a while for the machinery to be adopted, or 1920 and World War I as a historical moment.

Recommended treatment Recasing by the commercial bindery unless there are special reasons to save the original boards (e.g., decorative covers or endpapers, provenance, or artifactual value).

SOURCE OF DATES

Rogers, Joseph W. (1967). "The Rise of American Edition Binding" in *Bookbinding in America* (New York: R. R. Bowker), and chronologies supplied by Pamela Spitzmueller in her Advanced Conservation Workshop on Nineteenth Century Bindings at the University of Iowa, 1990.

It is important to note that this chronology is based on developments in America, which closely paralleled industrialization in England. Countries that did not participate in the

Industrial Revolution in the nineteenth century will have different types of bindings. This is evident, for example, in the Judaica volumes from Eastern Europe where techniques of eighteenth century hand binding survive into the twentieth century. A different strategy will be necessary for these materials.

CURRENT TECHNIQUES

All statistics are based on FY 90–91.

I. Materials used in standard treatments

ADHESIVES

PVA — Jade 403; methyl cellulose (Talas).
Aytex–P wheat starch (Talas).
Filmoplast P tape.

BOOK CLOTHS

"D" starch filled buckram.
"C" book cloth and older cloths no longer on the market.

PAPER

Perma/Dur Ledger and Permalife (University Products).
Dove Gray Endleaf and Mohawk Vellum (Archivart).
PTI 70 pound Endleaf Paper (Paper Technologies Inc.).
Japanese papers (Talas, Aiko's).
Additional hand–made and modern papers no longer on the market.

BOARD

Binder's board.
Archival boxboard, 10 and 20 point (Paper Technologies Inc.).
Blue–gray/white barrier board (University Products).

II. Binding Repairs

STANDARD PROCEDURES

Spine cleaning: methyl cellulose.
Spine linings: (1) methyl cellulose, (2) PVA or PVA/methyl cellulose mix, (3) super, (4) paper liner or hollow tube.
Case: binder's board, "D" grade buckram, and PVA.

REBACK

Problem: Damaged spine.
Components: Paper spine liner, cloth spine strip and inlay.
Materials:
Paper.
Cloth.
Time: 15 minutes or more.
Number Completed: 216.

NEW ENDSHEETS

Problem: Detached cover.
Components: Super, paper liner, sewn endsheets.
Materials:
Endsheets.
Super.
Paper.
Time: 0.5 hours.
Number Completed: 297.

NEW ENDSHEETS/REBACK

Problem: Damaged spine, boards detached.
Components: Super, paper liner, sewn endsheets cloth.
Materials:
Super.
Paper.
Endsheets.
Cloth.
Time: 45 minutes.
Number completed: 108.

NEW CASE

Problem: Damaged case needing replacement; book not suitable for commercial binding.
Components: Super, paper liner, sewn endsheets, new case, label (computer–generated).
Materials:
Binder's board.
Cloth.
Paper.
Super.
Time: 1–1.5 hours.
Number Completed: 446.

LIBRARY STYLE SPLIT–BOARD BINDING

Problem: Damaged case, text block heavy or oversized, unsuitable for commercial binding.
Components: Linen, paper liner, endsheets, boards attached to text block.
Materials:
Linen.
Paper.
Endsheets.
Cloth.
Binder's gray board laminate.
Time 1–1.5 hours.

III: Enclosures and Pamphlets

PAMPHLET BINDING

Problem: Single section material requiring protection.
Components: LBS Archival Products binder.
Time: 10 minutes.
Number Completed: 467.

WRAPPER

Problem: Fragile material too small for phase box.
Components: Two overlapping creased boards attached with PVA.
Materials:
20 point bristol.
Time: 15 minutes.
Number Completed: 340.

PHASE BOX

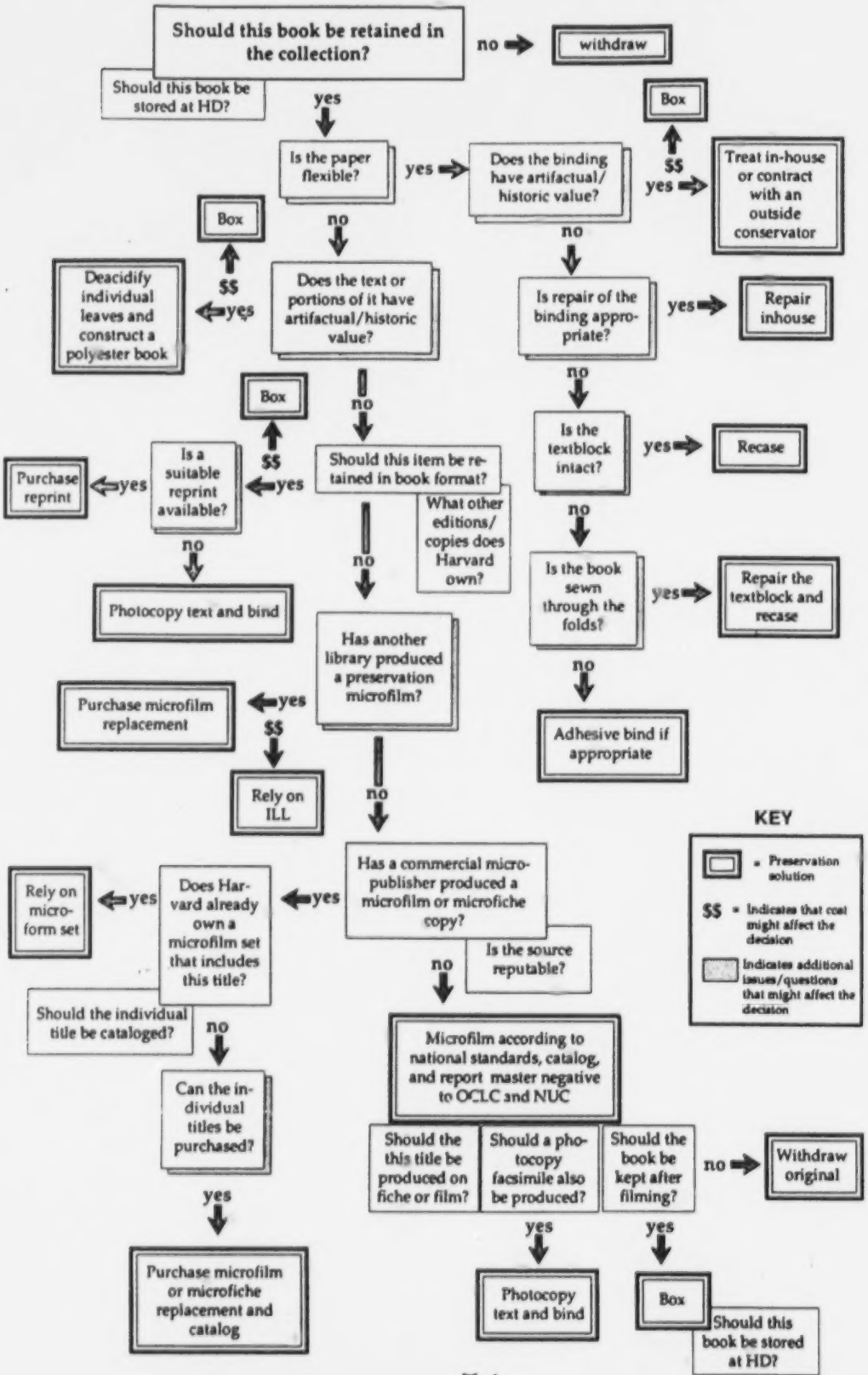
Problem: Fragile material needing protection, not candidates for reformatting or rebinding.
Components: Two overlapping creased boards attached with PVA; brass rivets and plastic washers.

Materials:
60 point board.
Brass rivets.
Plastic washers.
Time: 22 minutes on average.
Number Completed: 245.

PORTFOLIO
Problem: Loose sheets needing protection, not candidates for rebinding.
Components: Inner folders, cloth case with tie strings.
Materials:
Binder's board.
Cloth for the case.
20 point bristol for the inner wrapper.
Time: varies by size.
Number completed: 105.

Preservation Workflow

for a worn, damaged, or deteriorated book in the research collections



Indiana University Libraries: Institutional Profile

Jo Burgess, Conservation Coordinator
Bloomington, Indiana

INTRODUCTION

The Indiana University (IU) Libraries possess research resources of unusual depth and diversity. Among these resources are many unique and significant collections which have been developed over the years by purchase, by gift, and with federal funds. The Libraries hold strong humanities collections, with particular strengths in literature, history, folklore, fine arts, and music. Equally significant are the outstanding interdisciplinary research collections developed in the areas of African Studies, Russian and East European Studies, Uralic and Altaic Studies, East Asian Studies, and West European Studies.

The Indiana University Libraries ranked 14th among Association of Research Libraries (ARL) member libraries for collection size in 1990–91. The collections include more than 4,700,000 books and bound journals, 850,000 government publications, 6,252,000 manuscripts, 2,800,000 microforms, 500,000 maps and charts, 103,000 photographs, 300,000 slides, 300,000 music scores, and 38,700 current serial subscriptions. 1,288,000 items were circulated in 1990–91, and 156,000 new items were added to the collections.

The general collections are housed in the 500,000 square foot main library building, occupied in 1969. The remaining collections are distributed among 14 branch libraries, the Lilly Library, the Law Library, the libraries at the Kinsey Institute for Research in Sex, Gender, and Reproduction, and the Archives of Traditional Music.

HISTORICAL BACKGROUND

In 1983, the library administration appointed a Preservation Committee charged with assessing the preservation needs of the Libraries. The committee's report included a number of specific recommendations for action, including the appointment of a preservation officer to develop and implement a coordinated program for the preservation of the University's collections. The Library began recruiting a preservation officer in 1984, and appointed Carla J. Montori as Head of the Preservation Department, to begin in November of that year. Also in 1983, Debra McKern, a graduate student at IU's School of Library and Information Science and the former Collections Maintenance Supervisor at Southern Illinois University, Carbondale was hired to plan, equip, and staff a centralized Repair Unit as part of the Serials Department. Until that time, elementary repairs had been done by the stacks office of the Circulation Department, and by the branch libraries. In 1984, the Repair Unit acquired basic tools, equipment, and supplies.

In 1985, the Repair Section was moved into a much larger space than it had previously occupied (from approximately 500 sq. ft. to 3500 sq. ft.). This move allowed considerable expansion, both in terms of equipment and services available for the collection. James Canary, a binder in private practice, was appointed to head the new Collections Conservation Unit. Income from the Libraries' National Endowment for the Humanities Challenge Grant for the acquisition and preservation of humanities materials was used to build new work benches and furnishings and provide additional equipment. There are now five equipped work stations, a box making area, materials supply stations and additional storage space.

In 1988, Ms. Montori left Indiana University, and Lorraine Olley, the current Department Head, was hired to fill the position.

CURRENT CONSERVATION/PRESERVATION ACTIVITIES

Indiana University Libraries is firmly committed to preservation of materials in the collections. Over one-half million dollars is expended in preserving library materials annually. The Preservation Department comprises a full-time preservation administrator

overseeing a staff of 12.14 FTE organized into four units: the Special Collections Conservation Unit at the Lilly Library; the Circulating Collections Conservation Unit; the Bindery Preparations Unit (responsible for preparing Bloomington campus materials for treatment by the Heckman Bindery, Inc.); and the Shelf Preparations Unit (responsible for affixing tattle tapes, call number labeling, and ownership stamping of library materials).

The circulating collections Conservation Unit currently employs a full-time conservation coordinator, one full-time, and two half-time conservation technicians. Student assistants work a total of 60 hours per week. The staff are non-union and work one shift. Practicum opportunities are also offered each semester for Library Science students. The Unit is responsible for collection maintenance repairs for the Main Library and the 14 branch libraries on campus. Items in need of repair are received from a variety of sources: from the subject specialists and branch librarians who each have a quota of items that can be sent weekly (5–15), from the Circulation Department (150 items every three weeks), and from Shelf Prep., Bindery Prep., and cataloging. Approximately 90% of the work is use driven, with the other 10% being targeted by staff.

All incoming material is examined by the Conservation Coordinator, who determines the treatment it will receive and monitors work-flow within the Unit. Average turn around time is 1–3 weeks. Priority is given to items from branch libraries and the reference and reserve departments. Conservation technicians can perform all types of repair treatments, but concentrate on spine repairs, recases, new cases, and drop spine boxes. Student assistants' primary responsibilities are pamphlet binding, photocopying, and phase box and wrapper construction. Tracking and documentation are done on computer using a combination of NOTIS, our on-line circulation system, and BenchMark, a software package for conservation management. The supply and equipment budget is shared with the Conservation Section at the Lilly Library.

The Conservation Section of the Lilly Library performs all treatments on special collections. The staff there consists of the Conservator and one half-time conservation technician. Additional hourly money is available for 18 hours of student help per week. The section is responsible for all exhibition preparation, environmental monitoring, examination of all new acquisitions, and treatment. The lab is currently 400 sq. ft. in size, but plans for an addition to the Lilly Library include a new 1200 sq. ft. conservation lab.

Conservation technicians are considered technical staff. The Conservation Coordinator position is in the process of review for an upgrade to professional status. The Conservator is a professional position. Staff development opportunities are limited. The cost of on-campus workshops offered by the University's Human Resources Department and Computing Services Department are covered by the library. There is no funding available, however, for conference attendance or conservation related workshops but professional staff are given $350 per year for travel. The Preservation Department periodically sponsors conservation/binding workshops and encourages the staff to attend. The staff are also encouraged to participate in the broader library community through participation in library committees and staff or professional council activities.

CURRENT TECHNIQUES

PAMPHLET BINDER

To provide support and protection for items in limp paper wrappers.

A variety of commercial pamphlet binders are used. Staples are removed and item is sewn into a pamphlet binder. A protective endsheet folio is incorporated.

Time involved is 10–15 minutes.

300–400 are completed yearly.

WRAPPER

Housing for items too thin for phase boxes.

Wrappers are constructed of 20 point stock and enclosed in a binder of 60 point LBS grey/white board.
Time involved in production is between 20 and 30 minutes.
300–400 are completed yearly.

PHASE BOX

Used as a quick housing solution for brittle materials, artifactual materials, and materials that can't be bound.
Materials used are LBS acrylic coated grey/white board. Boxes are assembled with PVA. Polyethylene washers, rivets, and ties are used to secure boxes.
Time involved in production is between 20 and 30 minutes.
800–1,000 are completed yearly.

MOUNT SPINE

A quick technique for repairing spines when inner joint is intact.
This repair uses durable buckram and a PVA–methyl cellulose mixture. Material cost is minimal.
Time involved in repair is 30 minutes.
3–400 are completed yearly.

RECASE WITH SPINE REPAIR

A spine repair technique when boards are detached and are to be retained.
This repair involves cleaning the spine, adding new cloth–jointed endsheets (tipped or sewn on), applying new spine lining using a PVA–methyl cellulose mixture and cloth lining (super, muslin, backing flannel, or airplane linen). A new spine is constructed of buckram. Original spine is cleaned and retained when possible, otherwise a laser–printed label is produced.
Time involved in repair is between 45 minutes and 2 hours.
300–400 are completed yearly.

NEW CASE

Used on rebinds that for one reason or another we have chosen not to send out for commercial rebinding.
This repair involves cleaning the spine, examining sewing, possibly resewing loose signatures, adding new cloth jointed endsheets, and constructing a new case. A new laser printed spine label is produced.
Time involved is between 1 and 2 hours.
200–300 new cases are completed yearly.

CORRUGATED DROP–SPINE BOX

Used to house very large, brittle items. This box, built of acid free corrugated board, was designed by Andrea Krupp of the Library Company of Philadelphia. Instructions for its construction were published in the October 1991 issue of the *Abbey Newsletter*.

The Johns Hopkins University
Milton S. Eisenhower Library Preservation Program

Regina A. Sinclair, Head of the Preservation Department
Baltimore, Maryland

THE LIBRARY

The Milton S. Eisenhower Library (MSEL) was opened in 1964. The building is patterned after the Georgian structures that surround it and, to maintain a harmonious scale, only two levels of MSEL's six stories rise above ground. The four levels built partially below grade open into a light well at the south end of the building. The MSEL collections include about 2.1 million volumes, 1.5 million microforms and more than 11,000 serial subscriptions. There are two additional special collection libraries in the system. The John Work Garrett Library holds 29,000 books, including a collection of incunabula and several hundred manuscripts. The Peabody Library, which emphasizes 18th and 19th century works, contains over 250,000 volumes in its collection.

PRESERVATION PROGRAM HISTORY

The MSEL preservation program began in 1975 when the library's binding operations were formalized into the commercial binding office (CBO) on A–level, the first level below ground. This was the first in the preservation program's four–phase development. With the aid of a bequest from Pauline von Mitzel, a former MSEL staff member, an in–house bindery was the second phase (1976). Located on D–level, the bindery occupied an area of 4,300 square feet and was equipped to provide the full range of book conservation services. The paper conservation department, the third component, was established in an area adjacent to the bindery in 1982. It was equipped to deal with the preservation and conservation of non–book, artistic, and historic research materials: prints, drawings, maps, manuscripts, etc. The reprography component (photocopying), the fourth and final phase, was activated in 1983.

The general unavailability of binders with the necessary combination of skills to staff the bindery was initially a problem. John Dean, who guided the MSEL's preservation program through its early years, created a five–year apprenticeship program to address this need. It was certified by the U. S. Department of Labor, Bureau of Apprenticeship and Training. A total of five staff members – two of whom are still employed at the MSEL – completed the apprenticeship program. They were trained according to a model Dean based on the City Guilds of London and modified for United States applications. The equipment he procured is still in use today. His influence on the department's philosophy and methodology is ongoing.

At its beginning, the treatment focus of the preservation program was the more than 300,000 items published prior to 1850 which were in daily use. By 1986 eleven full–time staff were working in the department: a collections maintenance officer (Dean), five binders, a paper conservator, a book repair technician, a conservation liaison, CBO supervisor and her assistant as well as a modest number of student assistants. All units were linked administratively under the department head. The conservation liaison selected materials for treatment as they returned from circulation and routed them to the proper unit. One third of the department's production time was spent on routine binding: batch binding, usually in cloth, of pre–1850 books. Another third of production time was spent on *special* work: items that could not be conveniently batched because of the need for a detailed approach. The remaining one–third of production time was equally divided between finishing (the blocking of gold on cloth bindings and hand finishing of other bindings) and the construction of various types of boxes. The general, circulating collections received more and more attention from the mid–eighties until 1990, however, by which time post–1850 imprints received the major treatment emphasis.

REORGANIZATION

The Preservation Department was reorganized in summer, 1991 to emphasize MSEL's new focus on the general, circulating collections. The department's organizational home was moved from public to technical services. While CBO remains on A–level where it has been located since the Preservation Department's very beginning, the bindery and paper lab moved from D–level to the ground floor of a building next to the library. Its floor space decreased to 2,600 sq. ft. Job descriptions were re–written and the number of full–time staff in the department was reduced to six. There is now a much greater reliance on student assistants to perform the batch treatments performed in Book Repair. While our adjustment to the new, use–driven work flow has been good, please keep in mind throughout your reading of the rest of this document that we are still in transition.

STAFFING

Our staff is non–union. Six full–time positions combine with 1.75 FTE student assistants for a total of 7.75 FTE: 26% (2) professional; 51% (4) paraprofessional; and 23% (1.75) student assistants. Staff development is important. The Preservation Department subscribes to a number of professional publications. Staff members receive encouraging financial support to attend professional meetings and enroll in professional development courses offered by the University. One staff member, who gained her skills through the five–year, in–house apprenticeship program, is currently completing a twelve–month internship in advanced book and paper conservation at the Library of Congress (LC). The Conservation Technician also acquired her skills by completing the apprenticeship. The Book Repair Supervisor, who had no experience in preservation when hired several months ago, has received his on–the–job training from the administrator, assisted by the LC intern and Conservation Technician. The CBO supervisor, has occupied her position since it was created. The CBO Assistant, another new employee, will visit our commercial binder's plant in Ohio as part of her orientation. We belong to the Guild of Book Workers and the American Institute for Conservation. The administrator is active in the American Library Association, chairs the library–wide Preservation Committee, co–chairs the Disaster Preparedness Committee, serves on the Exhibits Oversight Committee and participates in the Department Heads Group. The person completing the LC internship is the department liaison to the PC Users' Group. Salary ranges for Preservation Department personnel are as follows:

Position	Grade	Salary
Head, Preservation Department	42	31,525 – 48,864
Book and Paper Conservator (pending)	40	25,566 – 38,348
Conservation Technician	37	18,124 – 27,186
CBO Supervisor	36	16,490 – 23,911
Book Repair Supervisor	36	16,490 – 23,911
CBO Assistant	34	13, 111 – 19, 011
Students	N/A	5.50/hr. – 6.30/hr.

The book and paper conservator presently completing the internship at LC will spend 100% of her time treating Special Collections items. She is also the department's representative to the PC Users Group.

The Conservation Technician has been in transition since the reorganization. Originally charged with treating older, general collections books, she spent 50% of her time cleaning and guarding; doing full, half and quarter–cloth rebinding; constructing clamshell boxes and portfolios; and completing restorations. More recently, her responsibilities have been re–defined so that she now applies her skills on general collections materials for which batch treatments are inappropriate: oversize enclosures, encapsulations and folios. The Conservation Technician also assists the administrator in assessing the effects of mass deacidification on

books returned from treatment and in staff and user education activities. She will assist the Book and Paper Conservator in Special Collections treatments. The other 50% of her time goes toward working on exhibits: constructing mats, cradles and mounts as well as installing and dismantling them.

The Book Repair Supervisor collects, sorts and routes the work flow. He is also responsible for training student workers and managing the quality control of their production. He performs repairs as needed. The Book Repair Unit completes regular repairs (disbinding, case repair, text block reinforcement and case binding), spine repairs, hinge repairs, phase box and crease box construction, tip–ins and pamphlet binding. The Commercial Binding Office Supervisor and CBO Assistant process serials and monographs to and from our commercial binder. Additionally, the CBO Assistant and Book Repair Supervisor process books being sent for and returning from mass deacidification.

THE WORK

Our work is 100% use driven. While two staff members have flex schedules, work is performed during one shift per work day. No system of work quotas has been established at this point. We are, however, in the process of defining production expectations. Treatment specifications for the general collections are determined by the administrator. The administrator, Book and Paper Conservator–in–training/Conservation Technician collaborate on treatment decisions for general collections items having artifactual value. The Book and Paper Conservator, in conjunction with curators, makes decisions for Special Collections items. The retention of original material is highly valued (over reformatting) in the MSEL philosophy. While job duties are clearly spelled out and well delineated in the new job descriptions, substantial interaction and collaboration can go on during the course of a day. The Conservation Technician serves as advisor to the Book Repair Supervisor, for example. The Book and Paper Conservator–in–training advises the Conservation Technician. Book Repair and CBO staff collaborate on monograph treatments.

Book repair and conservation work take place in separate, contiguous areas of the bindery. The materials supply room and the machine room, adjoining the bindery, are shared by both operations. The paper lab is across the hall, as is the administrator's office. Repair and conservation expenses are managed out of a single budget.

The Book Repair Supervisor goes around twice per week to appointed stations throughout MSEL, gathering books for prospective treatment. Each item is inspected on site, then flagged with a paper streamer in one of the twelve colors we use to identify disposition. These books are taken to Circulation where the materials are charged to either CBO or Book Treatment or routed for brittle books processing. (Items going to CBO are either recases or rebinds.) These are placed on a truck in Circulation where they are charged then collected by CBO staff. Support Services staff brings items charged to Book Treatment from MSEL to Krieger Hall on book trucks via an automated lift that operates between MSEL's loading dock and the Preservation Department.

Once a book is brought into Book Repair, it is shelved in call number order by date. Brittle books to be boxed are similarly arranged but shelved separately. The average turn–around time for a repair is eight to ten days. Whenever a library user requests a particular item charged to Book Treatment, however, its repair is completed and the book is delivered to Circulation within 24 hours. Reference books and those placed on reserve receive priority treatment. Once it is treated, a book is returned to Circulation, where it is routed to Preparations (part of the Acquisitions Department) if it needs a new call number label.

OUTREACH

Grants from the Andrew W. Mellon Foundation to The Johns Hopkins University made it possible for the preservation department to conduct multifaceted programs of preservation and conservation education, technical training, and consultancy from 1982–90. The preservation

training program provided pragmatic, technically sound, economical approaches to the preservation and conservation of books and flat paper materials. The audience were staff from target institutions who had complete or partial responsibility for the care and preservation of their institutions' collections, but who lacked formal training. The workshops emphasized supervised, hands–on practice with a number of simple preservation techniques requiring minimal equipment. The important companion issues of preservation principles, administration, and decision making were dealt with as well. The three– and four–month internships were aimed at library and archives staff who already knew some basic preservation techniques, but wanted training in a broader range of treatments as well as the opportunity for more extensive practice. The consultancies consisted of visits by MSEL preservation staff to institutions that were committed to preservation and wanted advice on how to implement a preservation program or expand an existing one. In 1987 MSEL preservation department staff produced the videotape, "Basic Preservation Techniques for Libraries and Archives." Accompanied by a detailed manual, the video was an effort to meet the need for a high quality instructional tool that teaches sound, practical preservation techniques. We continue to receive orders from all over the world for it. Outreach continues to be a major emphasis of our preservation program. The National Endowment for the Humanities is funding a (new) three–year grant enabling us to provide a number preservation workshops on the treatment of books and flat paper materials.

CURRENT TECHNIQUES

REGULAR REPAIR (COMMON NAME: CASE REPAIR)

Treatment provides: Restoration of boards that have become detached from the cloth spine and have torn or broken endsheets in the inner hinge.

Description: The book is disbound and the textblock reinforced by sewing through the original binding (whether sewn or adhesive) onto the spine, newly lined with linen. The textblock may or may not receive new endsheets. The spine receives paper linings. The covers are restored and the textblock case bound.

Materials:

Linen thread.
Perma–life paper.
Buckram bookcloth.
Jade PVA.
Linen stretch cloth.

Time: 45 minutes.

Number completed in 1990–91: 850.

Comments: This type of restoration strengthens the book's components while saving most of the original case materials (spine, boards, original sewing, etc.).

Approximate Cost: Unavailable, we are a department in transition.

STIFFENING (COMMON NAME: PAPER REINFORCEMENT)

Treatment provides: Support and protection to paperback books.

Description: A Tyvek strip (self–adhesive) is attached to the textblock and the inside covers, along the hinge. Lig–free boards or Barrier boards are adhered to the inside covers. Both types of material are attached with PVA.

Materials:

Barrier board.
Tyvek strips.
Lig–free board.
Jade PVA.

Time: 6–8 minutes.

Number completed in 1990–91: 13,469.

Comments: This treatment has been in operation at JHU since 1975. It has proven to be an inexpensive phase treatment for the paperbacks. Longevity depends upon use. When this treatment breaks down, the book becomes a candidate for a full cloth binding by our commercial binder.

Approximate Cost: Unavailable, we are a department in transition.

SPINE REPAIR

Treatment provides: Restoration of spines that have become worn or torn away from the case. The bond between the endsheets and case should still be strong and the inner hinge not torn or broken.

Description: The covers are left intact while the original spine strip is replaced.

Materials:

Jade PVA.
Buckram strips.
Perma-life paper.

Time: 30 minutes.

Number completed in 1990–91: 600.

Comments: While retaining the book's original components, this repair strengthens the spine area. It requires less time than a regular repair and is, therefore, more cost effective, as long as the textblock and case have not been damaged.

Approximate Cost: Unavailable, we are a department in transition.

RECASING

Treatment provides: Reattachment of the textblock to a case that is essentially undamaged or showing minimal wear. The textblock, although detached from the case, is still intact.

Description: New endsheets are added and the undamaged case is reattached.

Materials:

Perma-life endsheets.
Jade PVA.

Time: 30 minutes.

Number completed in 1990–91: 100.

Comments: This is an important intermediate treatment for maintaining the physical integrity of collections.

Approximate Cost: Unavailable, we are a department in transition.

HINGE REPAIR

Treatment provides: Reinforcement of the inner hinge and supports the textblock.

Description: A knitting needle coated with PVA is inserted down the spine, between the loose endsheet and gutter.

Materials:

Jade PVA.
Knitting needles.
Waxed paper.

Time: 5 minutes.

Number completed in 1990–91: 2500.

Comments: This simple repair strengthens the inner hinge, thereby preserving the integrity of the volume. It also acts as a preventive measure, reducing the need for more time consuming and costly repairs at a later date.

Approximate Cost: Unavailable, we are a department in transition.

CREASE BOX

Treatment provides: Temporary (or permanent) housing to protect damaged and brittle material. This treatment is used for volumes under 11 inches in height or 1 inch thickness.

Description: Two pieces of lig–free board are folded around the volume to provide a light–weight, air tight container.

Materials:

3–M double–sided tape.

Lig–free board.

Number completed in 1990–91: 700.

Time: 30 minutes.

Comments: This treatment has been used extensively for smaller, lesser used, brittle material. It provides support and protection for fragile items.

Approximate Cost: Unavailable, we are a department in transition.

PHASE BOX

Treatment provides: Temporary (or permanent) housing and protection for damaged/brittle material. Used for materials measuring over 11 inches tall or 1 inch wide.

Description: Two pieces of grey/white barrier board are constructed around the outside of the volume to provide more sturdy protection than the Crease Box.

Materials:

Rivets.

Polypropylene buttons.

Barrier board.

Jade PVA.

Waxed, linen thread.

Time: 30 minutes.

Number completed in 1990–91: 800.

Comments: This treatment is used extensively for general collections materials. Brittle materials must have circulated fewer than five times to be boxed.

Approximate Cost: Unavailable, we are a department in transition.

PAMPHLET BINDING

Description: The pamphlet is sewn onto a cloth strip. The strip serves as a hinge which is glued between two pieces of barrier board.

Materials:

Jade PVA.

Linen thread.

Buckram strips.

Barrier board.

Time: 20 minutes.

Number completed in 1990–91: 825.

Comments: The majority of the pamphlets are treated by the Preparations Unit (part of the Acquisitions Department), where commercial, ready–made binders are stapled to the pamphlets. Certain pamphlets are brought to the Book Repair Unit for our sewn treatment.

Approximate Cost: Unavailable, we are a department in transition.

Treatment provides: Support and protection for single signature, flexible pamphlets.

FULL CLOTH

Treatment provides: protection to textblocks comprised of single leaves or sewn sections (signatures).

Description: The fan glued or sewn textblock is bound (or rebound) to prolong the life of the paper. Adhesive is used to attach new linen and paper spine linings. Fresh endsheets are added and the textblock is case bound into a newly constructed cover.

Materials:

Buckram.
Wheat paste.
Jade PVA.
Linen.
Endcaps (enclosed hemp).
Paper linings.
Endsheets.
Davey board.
Paper label.
Gold foil.

Time: 2 hours.

Number completed in 1990–91: 80.

Comments: The majority of full cloth bindings are done by our commercial binder. Some materials, e.g., reference and reserve materials, warrant in–house treatment, due to intrinsic value, and time constraints.

Approximate Cost: Unavailable, we are a department in transition.

HALF CLOTH

Treatment provides: protection to textblocks comprised of single leaves or sewn sections.

Description: The fan–glued or sewn textblock is bound (or rebound) to prolong the life of the paper. Adhesive is used to attach new linen and paper spine linings. Fresh endsheets are added and the textblock is case bound into a new, trimmed (half–cloth) cover.

Materials:

Buckram.
Wheat paste.
Jade PVA.
Linen.
Gold foil.
Paper linings.
Endsheets.
Davey board.
Elephant paper.
Machine endbands.

Time: 2 hours.

Number completed in 1990–91: 50.

Comments: The majority of materials bound in cloth are done by the commercial binder. Some materials, e.g., reference and reserve materials, warrant in–house treatment, due to intrinsic value, and time constraints.

Approximate Cost: Unavailable, we are a department in transition.

PORTFOLIO ENCLOSURE

Treatment provides: protection and housing for loose material, e.g., plates, photographs, prints, etc. of the general collections.

Description: Inside envelope or folder is constructed of two or four pieces of lig–free board, glued together to provide protection on all sides. Where possible, the board's grain direction is parallel to the spine. Pieces are adhered together with PVA. The case consists of grey Davey board (three pieces) and book cloth or buckram. All adhered with PVA. Stamped with gold foil.

The lining is perma-life text paper, attached with PVA.

Materials:

Buckram.
Davey board.
Gold foil.
Holliston Mills bookcloth.
Jade PVA.
Lig-free board.
Perma-life paper.

Time: 2 hours.

Number completed in 1990–91: 42.

Comments: Has proven to be appropriate for the formats mentioned above in that users seem to respect the contents more than when less attractive enclosures such as the phase/crease boxes are used. A portfolio enclosure provides the protection of a clamshell or drop spine box without the cost. It pleases curators/librarians of collections where more attractive enclosures are wanted, like in the art collection.

Approximate Cost: Unavailable, we are a department in transition.

REBACKING

Treatment provides: restoration of older material in the general circulating collections (post 1850).

Description: Original sewing is strengthened or reinforced with adhesives and thread. The textblock may or may not receive new endsheets. New linen and paper linings are adhered to the spine. Covers are restored and reattached: secured to the textblock with a bookcloth or buckram.

Materials:

Buckram.
Paper lining.
Wheat paste.
Holliston Mills bookcloth.
Jade PVA.
Linen.
Endsheets.

Time: 1.75 hours.

Number completed in 1990–91: 10.

Comments: This type of restoration strengthens the book's components while saving most of the original materials (spine, boards, etc.).

Approximate Cost: Unavailable, we are a department in transition.

Metropolitan Toronto Reference Library

Johanna G. Wellheiser, Manager Preservation Services Department
Toronto, Ontario, Canada

ORGANIZATION

The Metropolitan Toronto Reference Library (MTRL) is Canada's largest public reference library. Its collections are subject-divided, 99% non-circulating and are maintained at the undergraduate university level. Apart from the Metro Urban Affairs Library situated in Metro Toronto Hall and Alpha Ontario, the Ontario Literacy and Language Training Centre, all departments of MTRL are located in one building (built in 1977) spread over six floors.

MTRL came to exist in its current form in 1967, although the history of the Library goes back to 1830 when the Toronto Mechanic's Institute was founded, after which it operated for 85 years as the central library for the Toronto Public Library system. MTRL is operated by the Metro Toronto Library Board, a special library service board, and provides regional services to the city and borough public library systems that make up the Metropolitan Toronto region.

STATISTICAL OVERVIEW

The Library holdings consist of approx. 1.5 million volumes (monographs and bound periodicals), 2.5 million other materials (films, tapes, microforms, maps, fine art, ephemera, etc.) plus 360,000 linear meters of manuscript materials.

In 1991, the 1.4 million visitors (+13% over 1990) to MTRL asked 1.5 million questions (+17% over 1990), used 3.5 million items (+11% over 1990) and made 3.1 million photocopies (+9.1% over 1990).

PRESERVATION SERVICES DEPARTMENT

Organization The department is part of the Systems and Technical Support Division and has existed in its current form (Binding Unit and Conservation Lab) since 1984. The history of binding at MTRL goes back to the early 1880's, with the "Restoration Laboratory" established in 1960 with the help of Willman Spawn of the American Philosophical Society.

The department is responsible for a comprehensive preservation programme for the care, handling and treatment of the collections of MTRL (not the city and borough systems). This includes the preventive care, protection and treatment of collections; environmental control; disaster planning; development and implementation of policies/procedures for collection care and handling, binding specifications, exhibition loans, off-site storage, etc.; and remedial measures ranging from basic repair on current general collection materials to full conservation on Special Collections.

The department also acts as a preservation information resource for libraries and other organizations in and around Toronto, and responds to about 500 public inquiries a year.

Statistical Overview A total of approximately 28,000 binding treatments are done per year, of which about 3,000 are done in-house (mostly repairs because of heavy use and vandalism). The remaining 25,000 items are prepared and sent to commercial and hand bookbinders.

The Conservation Lab completes between 2,000 – 7,000 treatments a year, the volume depending on the nature of the materials submitted. The majority of this work is done for those departments with Special Collections – History, Arts and Languages & Literature.

Resources In 1991, the departmental budget was approximately $560,000. This figure covers salaries, outside binding services, equipment maintenance and some supplies. Equipment, automation expenses and preservation facility-related costs are not included in this figure.

There is a total of eight staff (manager, three conservators, binding supervisor, three binding assistants). Six positions are full-time permanent and two are full-time temporary. Interns have been taken in on a fairly regular basis over the last eight years.

REPAIR PROGRAMME

The repair programme for MTRL collections is a component of the Preservation Services Department programming and remains in a constant evolutionary state. Some basic repairs (mending torn pages) are done by Public Service Division staff after training by Preservation staff. Of the repairs done by the Preservation Services Department, the Binding Unit would handle materials of a more routine nature. Treatments of a more complex nature and all Special Collections materials come to Conservation. Work quotas for annual binding submissions are established for each department, although this is flexible and is usually adjusted towards the end of the year. Work is submitted to Binding on a needs basis, although work is proceeding to develop a more planned long-term approach. Materials submitted to Conservation may come through the MTRL Priority Conservation Submission System, the Exhibition Programme or non-planned rush materials.

Specifications for treatment are determined by Preservation Services. The policy is to try to retain as much of the original as possible irrespective of age, value, etc. All materials used for MTRL repairs are those "recommended" for preservation. The complexity and extent of treatment varies considerably (including pamphlet binding, mending of tears and loose pages, tipping in of detached or replacement pages, eradication of graffiti, enclosures, removal of gum, etc.). Backlog for repair of routine materials is generally less than a week.

Preservation Services is currently conducting training sessions on the design and production of phase boxes for staff from several Public Service Division departments. While new and quite small in scope, this project is running smoothly and may be implemented more widely at MTRL.

"PRESERVATION" BARCODE AND SECURITY LABELS/STRIPS

In 1984 MTRL identified a need to re-examine the security system used at the Library. Our experience was that the constituent components, especially the pressure-sensitive adhesive(s), of the security labels then in use, were not stable over time, causing damage to collection materials. Furthermore, advances in security detection technology brought into question the continued use of the existing radio frequency (RF) system. For example, the presence of multiple RF labels in a single item (bound periodical) generally negates the security detection function of the labels, as would several items each with its own security label. This is not the case in other types of security environments, where the presence of multiple labels in one or more items enhances the security function that would normally exist for an item with a single label. As a result of these concerns and the concurrent implementation of VTLS, the Library's new integrated automation system, a thorough examination of current security detection technology, barcode technology and related preservation issues was undertaken. The goal was to identify specifications for label/strip(s) that would not damage our collections, while at the same time meet other functional and construction/design requirements, i.e., security, barcode "scannability," longevity and cost-effectiveness. In addition, it was necessary to be consistent with other relevant agreements with the city and borough library systems, e.g., use of Codabar barcode format.

Since 1984 contacts were made with a large number of library security and barcode vendors, label companies and institutions using various systems for security and barcode purposes. Research of existing security and barcode labels and strips was undertaken in an effort to determine the specific components of various systems. This information was surprisingly difficult to obtain and was in some cases "unavailable" or "unknown." At the request of MTRL the Canadian Conservation Institute (CCI) and several other conservation scientist consultants/labs (Lavinco Conservation Science Services and Integrity Testing

Laboratory) were contracted to conduct research on the components of various systems, mostly adhesives. A specialist company in the security industry (Custom Security Industries) was also contracted to assist with the development of the new labels/strips.

At the end of these investigations, it was decided that none of the existing security/barcode systems, as they were then designed, were suitable for use by MTRL. Because we have, in effect, a 100% retention policy for our collections it is essential that the labels do not damage our materials. It is also important that the adhesive stick well to the wide variety of book and non-book materials found in library collections today, including paper, board, buckram, leather and various plastics. It proved to be impossible to identify an available product(s) that met MTRL needs. Thus, based on the results of our research, specifications particular to our needs were drawn up and a *Request for Proposal [RFP] for Barcode/Security Labels and/or Strips* was issued on January 8, 1991.

In March 1991 the Board of the MTRL approved the adoption of an integrated barcoding/security strategy based on electromagnetic security detection technology. The contract was awarded to ID Security Systems Canada Inc., a subsidiary of ID Security Systems International BV, The Netherlands. ID Systems also supplied the EM detection system which was installed to function concurrent with and augment existing security measures.

The integrated strategy involves the use of three types of permanently-sensitized labels and strips. Various combinations of labels and strips are now being used on the various collection formats to fulfil the following functions:

- Security against theft;
- Tracking of materials throughout processing, etc.;
- Circulation (conventional circulation for our small number of circulating materials as well as future "in-house" circulation for the purpose of collection management).

Exceptions to the above include certain types of materials that cannot be made secure using labels and strips without the risk of damage to the items or playback equipment, i.e., microfiche or compact discs. In these cases only the container can be made secure. Our Special Collection materials are not directly labelled either.

All labels and strips are constructed from materials meeting preservation, barcode and security criteria laid out in the MTRL Request for Proposal. For example, the barcode/security label has a polyester film imprinted with a non-run/smear laser barcode and Library information, laminated with a spunbonded olefin, using an acrylic adhesive in which is embedded a security wire/ribbon. To the best of our knowledge, based on CCI and other research and product literature, the adhesive will remain "stable" over the long term in comparison to other pressure-sensitive adhesives. It has also proven to adhere well to a wide variety of materials.

FUTURE DIRECTIONS

Priority is being given to a broader-based approach for the care of collections as a whole and creative ways of doing more with less. MTRL plans to further develop its repair programme with the goal of treating items at their earliest point of need. These larger issues will be examined by the Preservation and Priorities Committee. It is also anticipated that the Library's strategy for "preservation" security/barcode labels and strips will continue to evolve as our needs change and as technology advances. Already planned is the development of a two-part label for use with new acquisitions going for immediate binding that need to be barcoded/secured during processing and cataloguing. It is also planned to use call number labels having the same acrylic adhesive that will be non-damaging to the collections.

Also currently in development is the refinement of an interface between VTLS, MTRL's integrated automation system, and ABLE binding software. The goal is to download all necessary bibliographic information for monograph binding from VTLS to ABLE (serials entered directly on ABLE). It is projected that this will result in considerable cost savings across the

organization, as well as consistency of spine stamping relative to the information in the on-line catalogue.

Profile for the Nebraska State Historical Society

Catherine Atwood, Paper Conservator
Lincoln, Nebraska

INSTITUTIONAL PROFILE

The Nebraska State Historical Society has a position called Conservation Specialist. Judith Fortson was the first conservation person at the Society, followed by Ann Dodge. I began work in Lincoln in November of 1988.

The Society has three sites in Lincoln, and other facilities around the state. The conservator works mainly with the library (including 3000 maps), State Archives, manuscripts, and photographs (250,000 items); these collections are based in the headquarters building. Access to storage areas is restricted; materials are used in a reading room, and may not be "checked out."

So far, my most organized work has been done with the library, which has an estimated 80,000 titles. The priority areas of the library were identified, based on their importance to research on Nebraska. As time and money permit, we are systematically upgrading the storage of the library collection. This usually means that polyester covers are put onto dust jackets, slings and envelopes are used on small or vulnerable items, and four–flap phase boxes are made for books that are falling apart.

In the past, work has come from the other divisions sporadically. Some materials need repair or better housing so that they can be added to the collections. Other materials are noticed when they are pulled for use. During the next year, we may be able to decide on overall conservation priorities for all paper based artifacts.

All conservation–related work is done by one full time person, and perhaps 12 hours a week of help from students, interns, or volunteers, so "repair" is a minor part of our agenda. Making storage containers, doing stabilization and encapsulation of paper, answering conservation questions, and ordering folders/boxes/sleeves/etc. for all divisions takes up most of the time. When treatments are done, and there are treatment choices to be made, the curator for the collection is consulted.

The starting salary for the conservation position is $23,198. There is minimal chance for professional development.

The conservation position is in a NAPE bargaining unit (Nebraska Association of Public Employees). This is affiliated with AFSCME. I recently became a union steward for the Historical Society. Coincidentally (?) soon after this, the conservation position was put on a list of cuts to be made if the budget is reduced for the 1993 fiscal year.

CURRENT TECHNIQUES

4–FLAP PHASE BOXES

The 4–flap box, made of .020 map folder stock, is our basic book box. The 1/2 inch wide cotton tape is laid between the two rectangles of board which make up the box. The tape is used for tying the box closed; the knot is at the fore–edge of the box. We use Jade 403 as the adhesive, and do hand labeling with Pigma Pens.

These boxes are usually made for books which are falling apart. Occasionally they will be made to protect a nineteenth century book which is in good condition.

There are many possible variations, even with this simple design. When a book is heavy, we incorporate a second cotton tape, tied vertically around the box. We have put wedges in boxes, for when the book is thicker at the spine than the fore–edge (or vice versa). We also made a box which housed both a cassette tape (in a cut–out space in corrugated board) and a book.

Books are measured in a wood and graph paper device which gives accurate measurements in an easy manner. We use a form for boxmaking which includes cutting and

placement information. A student put the form into a spreadsheet program (Quattro Pro) so we do not need to do the calculations anymore.

Last year we made 300 of these boxes. They take about 20 minutes to make; they are usually made in small batches of 5 to 10 at a time. The materials for an average size box cost $1.10.

CORRUGATED BOXES

Last year we made 20 of these boxes. This is a small number, but the corrugated box is an important way for us to store or handle materials.

As a book box, the corrugated design is used instead of the 4–flap box when the book can not take any pressure on the shelf. Or it is used when the book weighs 5 pounds or more. Most boxes are stored horizontally, but a few are used vertically.

The basic box is made from archival corrugated board, with a bit of PVA to hold the corners. We have used the boards supplied by Conservation Resources and University Products. The box is constructed from a rectangle of board which is scored and cut so that the walls fold up and the corners become support for the long sides. The box bottom has one long side that folds down, so the artifact can be removed easily. The lid is made based on the finished size of the bottom section; all four corner flaps are fastened down on the lid. The boxes can be made to fit fairly accurately; there are a few tricks to be learned about compensating for the behavior of the corrugations.

The single wall box takes about 20 minutes to construct, and the materials cost $2.00 for a box that is 8 inches x 10 inches x 3 inches.

We have done these variations on the single wall corrugated box:

- made with a wedge (to accommodate warped books),
- lined with foam, and carried in a "furoshiki" (to carry historic photos and negatives to the photographer for reproduction),
- in a tall version, without a fold–down side, and with "filler boards" of corrugated board or foam core (to be a transport box for glass plate negatives which are going to the photographer),
- with a "pillow" made of unbleached cotton batting over polyester fiberfill (as a support and storage device for convex shaped photographs).

The "double wall" corrugated box is a stronger structure for larger or heavier loads. We have used this box for folders of encapsulated maps, and it has been very sturdy. The largest box of this type was maybe 24 inches x 36 inches. The strength comes from cross plies of corrugated board in the walls and bottom of the box. The longer walls are actually triple ply. The materials are removed by providing a hand space along one side of the box.

The lid of the box is usually made with single walls; a cross ply board can be glued across the span of the lid.

If a "double wall" box is going to be handled frequently, strips of buckram can be glued to the sides or edges of the box bottom and top.

SLINGS AND ENVELOPES

This is a device to store fragile or vulnerable items which are no more than 1/2 inch thick. It gives support when shelving an item, or separates an artifact from adjacent materials in a manuscript box. It is mainly used for paper, but we have also put ribbons into slings and envelopes. They are used most often on library and manuscript collections.

The envelopes are a regular archival supply. We use them in five sizes; they cost from $0.22 to $0.42 each.

The slings are sold, or they can be cut and folded in–house. I prefer to use 65 pound Mohawk Superfine Coverstock for the slings. The Mohawk sheets are 26 inches x 40 inches, in boxes of 500 sheets for about $220.00. So material cost for the slings runs from $0.055 to $0.15.

The slings can be cut on a board shear or with a guillotine. Contact me for cutting sizes/patterns (the slings are 1/2 inch narrower than envelope size, and have a flap size which varies in order to make best use of the paper), and for a list of the maximum artifact size which should go into each size of envelope.

The slings and envelopes are put onto vulnerable items wherever the item is encountered. There is a supply of slings and envelopes in the reading room, in Library Technical Services, and in conservation. Last year we used about 1200 slings and envelopes.

TYING BETWEEN BOARDS

Some oversize pamphlets, small groups of newspapers, atlases, and bundles of maps need to be protected in order to put them on the flat shelving designated for oversize materials. The most economical method is to tie them between boards.

We often use .060 gray/white board, although larger or more fragile artifacts require the use of double-layer/cross-ply archival corrugated board.

The ties are made of 1/2 inch wide cotton tape (from Gane Brothers). The ties are fastened to the back board with PVA; this keeps the ties from getting lost when an item is used. The cotton tape is tied at the edge of the boards. The call number and title information is put directly onto the boards with a Pigma Pen.

The cost of this procedure depends on the size of artifact. A set of boards made from gray/white board, for an artifact measuring 16 inches x 24 inches, would cost about $2.00. It takes about 10 minutes to assemble. About 60 items were "boarded" last year.

DUST JACKET COVERS

We are systematically putting polyester covers on all book jackets in the collection. The Durafold brand from Demco is the best I've found. But sometimes it seems that the polyester has a coating, so it may not always be archival. We cut off the tab of adhesive on the top edge of the Durafold; the cover does not have a paper liner.

Last year we put covers onto 300 dust jackets. We use sizes ranging from 10 inches – 16 inches, which cost from $0.23 to $0.43 each.

"G-BINDING"

We use G-binding (Gestetner binding) on two main groups of materials: (l) Family, church, and county histories which were self-published. If the title will be used by the public, but not heavily used, it will be G-bound. If we can get two or three copies of the title, the additional copies will be kept in their original form. (2) If a book is in poor condition, we photocopy it onto permanent/durable paper. Some of the photocopies are library bound. If the title will not be heavily used, it might be G-bound.

G-binding is used less now than formerly. We have old examples of original materials being G-bound, which we now put into slings and envelopes.

G-binding is for items less than 1 inch thick. Materials cost (acidic paper covers and plastic binding strip) is $0.76 per binding; it takes about 5 minutes to punch holes and assemble. Our machine has worked for many years without needing service. Last year we bound 110 items. (The Historical Society also uses G-binding on finding aids and other non-collections materials.)

MISCELLANEOUS

The following items were brought to the meeting, to share the ideas/information:

- samples of mending done by Pam Corell Howard (see "Mending Lite" in the 1990 Book and Paper Group Annual),
- handouts on making "worms," doing encapsulation, and on the "Preservation of personal health,"
- templates for 4-flap phase boxes and corrugated boxes,

- felt covered tube, which is used as an aid in encapsulation,
- a "snake" and a "worm."

POSTSCRIPT

As of November 1992, the conservation program of the Historical Society was terminated. The Society is still building the Ford Conservation Center in Omaha, and ground breaking is the Spring of 1993. New conservators will be hired, and a new conservation program started, when construction is completed.

The administration has said that this is a re–organization of the Society, and that it is not tied to budget cuts. And of course it is not tied to any activism on behalf of staff members which may have been practiced by the current conservator!

Preservation Activities at the New York Academy of Medicine Library

Susan Martin, Conservator
Elaine Schlefer, Preservation Administrator
New York, New York

The New York Academy of Medicine (NYAM) Library was founded in 1847 and has grown to become the largest private medical library in the United States. The library contains 680,000 bound volumes (including 32,000 rare books), 185,000 cataloged pamphlets, 276,000 portraits and illustrations, and 386,000 manuscripts on biomedical subjects.

In 1982, the Library received a 3–to–1 matching grant from the National Endowment for the Humanities (NEH) to establish a preservation program. The Mellon Foundation, the New York Community Trust, and other organizations helped the Academy to match the NEH funds, and the preservation program was instituted in 1985. In 1992, the Gladys Brooks Foundation generously donated funds to move the laboratory to a greatly enlarged space, and to purchase a number of pieces of specialized conservation equipment. The new lab has been named the Gladys Brooks Book and Paper Conservation Laboratory.

At present, the staff of the Preservation Department consists of three full–time professional employees: Administrator/Conservator Elaine Schlefer, Conservator Susan Martin, and Assistant Conservator Solveig Schumann. Temporary summer employees and volunteers supplement this staffing. The administrator and the conservator previously worked for a number of years with Carolyn Horton and Associates. The assistant conservator, after some previous experience in other binderies, served an 18–month internship at NYAM before being hired.

The Preservation Department is responsible for all aspects of preservation in the Library, including collections maintenance, overseeing of commercial binding and exhibitions, and cooperative preservation activities, as well as conservation.

Conservation activities include dry–cleaning, washing, deacidification, mending, rebinding, rebacking, pamphlet binding, ultrasonic encapsulation, matting, paper repair, and construction of a variety of protective enclosures, including several types of wrappers and drop–spine boxes. The staff has designed a number of structures to solve particular problems of the collections. Whenever possible, staff publish articles about new techniques in professional newsletters.

The Preservation Department handles all repairs to the collections. Staff members are trained in all aspects of the Department's work. Therefore, a person might perform a painstaking conservation treatment on a rare book one day, then make a wrapper for a general collection book the next. A single budget covers both basic repairs and rare–book conservation.

Work is generally routed to the lab by supervisors. The Special Collections Librarian maintains a close relationship with the Preservation Department and regularly brings problems and suggestions to the attention of the staff. The Reference and Serials/Acquisitions librarians also send books in need of repair to the lab. Stack supervisors are advised to set aside books in obvious need of repair and to bring them to the attention of the Preservation staff.

Grant–funded projects with deadlines and books in the Library's Adopt–a–Book program receive priority. The Department has had a number of grant–funded projects, funded by the New York State Library, the National Library of Medicine, and other agencies.

Treatment specifications are determined by the Preservation staff, who work together to decide on the best materials and techniques to use. The value of an item to the collection governs to some extent the sort of treatment it will receive. General Collections materials usually receive laser–printed Japanese colored paper (Moriki) labels, while gold–stamped leather labels are used for Special Collections materials.

Pamphlets are not routinely bound – they are put into acid free envelopes and shelved upright in filing–type cabinets. The staff has developed a fast and easily–constructed pamphlet binding that is used on General Collections items, and with some cosmetic modifications, on Special Collections materials as well.

The staff has recently begun making facsimile copies (on acid free paper) of deteriorated pamphlets. These are bound non–adhesively in a variation of our standard pamphlet binding. The original pamphlet is placed in a wrapper or in an acid free envelope with a polyester film sling and retained. Access to the original is restricted, and in most cases prohibited.

When rebinding Special Collections books, the boards and other significant parts of the original binding are retained and stored in a compartment in the box with the rebound book.

Staff members spend a considerable amount of their spare time on professional activities, serving on various committees of the Guild of Book Workers, the New York County Metropolitan Reference and Research Library Agency (METRO), the New York County Medical Society, and other organizations. The New York Academy of Medicine strongly encourages professional development, and staff members have regular opportunities to attend workshops, courses, seminars and meetings.

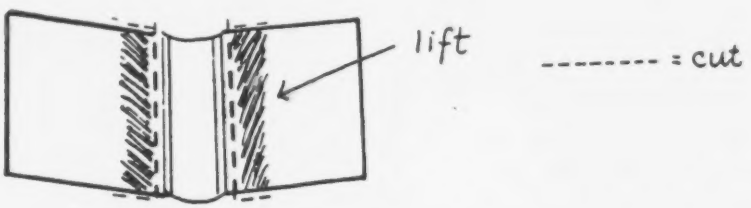
CURRENT TECHNIQUES

TYVEK REBACKING

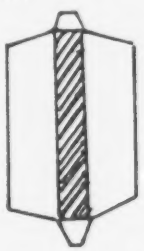
Use this technique only for books from Circulation with firmly attached boards.

Materials Required: Tyvek (spun–bonded Olefin product sold by Dupont) and PVA. (Note: Tyvek must be adhered with straight PVA and not mixture (50% PVA/50% methyl cellulose). We have found it practical to "recycle" Tyvek mailing envelopes for rebackings).

1. Cut through cloth along spine edges of boards, 1/16 inch from the edges; cut cloth along top and bottom edges of boards for 1 inch in from the corners. Remove damaged spine and lift cloth 1 inch from spine along boards.



2. Clean off exposed spine and line; attach tube if desired.
3. Cut a piece of Tyvek (it has no grain) 1.5 inches longer than the boards and a width of 2 inches plus the spine width. Cut a piece of paper spine liner the exact width of the spine and height of the boards. Center the spine liner on the Tyvek and glue it down With PVA. Give it a nip in the press. Cut Tyvek as shown below.



4. Turn over tabs of Tyvek at head and tail and glue with PVA.

5. If you wish to re–use original spine cloth, clean off old lining. (Note: If desired, Tyvek can be toned with acrylic paint or Rotring to harmonize with bookcloth). Trim original spine neatly and glue it in place to new Tyvek spine with PVA. Give it a nip in the press. If original spine is not usable, type a paper label and glue it on the Tyvek spine with PVA and give a nip in the press.
6. Glue out the hinge areas of the Tyvek (and the spine area if a tube is being used) and attach to book, rubbing firmly with bone folder. Place book between brass–edged boards to insure good adhesion.
7. Glue out and put down board cloth and give book a nip in the press.

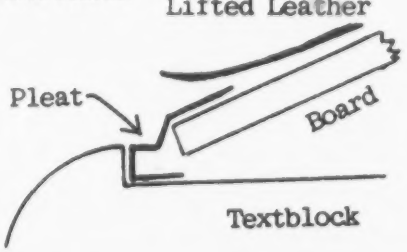
REATTACHING LOOSE BOARDS TO A LEATHER BINDING

This technique can only be used for reattaching boards that have become separated from a binding where the textblock is very firm and secure. In addition, there must be a substantial shoulder in order for this to work.

Begin by completely severing any remaining connection between boards and textblock. Clean off edges of boards and trim off any cord remnants that remain. Neaten up leather at joint edge of boards. Carefully lift the leather on the boards an appropriate distance from the edge (these books will often be half or quarter–leather and board covering should be lifted to distance about 1/8 inch beyond the edge of the leather). Set boards aside while cloth hinge is constructed. Remove first fly leaf (only if tipped on; if it is sewn on, a new flyleaf can be added as a final step).

Prepare hinge Use sized linen or a thin bookcloth to form the hinge. Cut it to the exact height of the textblock and about 2.5 inches wide (grain long) Crease sharply (valley fold) along the length about 1/4 inch in from the edge to form the part of the hinge that is glued to the textblock along the joint.

Attachment of cloth hinge Begin the board reattachment by gluing this 1/4 inch section with mixture (50% PVA/50% methyl cellulose) "right" side down along the joint edge of first page of textblock. At the same time, glue up the shoulder area and work cloth hinge up onto this area. Next create the pleat which will fit between the shoulder and the board edge. To do this, crease cloth hinge sharply along the exact top of the shoulder; the beauty of this method of creating the cloth hinge right on the book is that the hinge will fit perfectly into the joint area even if it is not absolutely square. Fold cloth down to bottom of shoulder area and then crease sharply and bring cloth back up to top of shoulder and crease again along top of shoulder. You have now created the necessary pleat. All that remains is the width of cloth that will attach onto the top of the board, beneath the lifted leather. You will need to measure exactly how much cloth you need; trim off any excess at this point. Now you are ready to glue up the board underneath the lifted leather. Cloth hinge will have last crease fall exactly along the board's edge. Press hinge in place down onto board and push board snugly back into shoulder (pleat will be in between). Place Mylar between lifted leather and glued–down hinge to prevent leather from attaching to board at this stage; place Mylar between textblock and board and give a firm nip to the book in this position. Remove from press and pull board gently forward and glue up interior of pleat area (you may want to use straight PVA for this). Nip book again with board firmly in place against shoulder. Remove from press and bandage book firmly (first protecting spine area with waxed paper). Allow to dry completely and remove bandage. Place book flat on table and open board to less than 180 degrees. With straight PVA, glue closed pleat to edge of board this will probably take some firm coaxing with a small, flattened bone folder. Let dry fully before closing. Finally, tip or hinge on old (or new) fly leaf; this will hide the 1/4 inch cloth tipped onto first page of textblock. Repeat entire procedure for second board but remember that board should be positioned before gluing up by using a right angle to assure proper alignment of the front and back boards.



PAMPHLET BINDING

Pamphlet bindings are used for single–signature or very thin pamphlets to enable them to stand on library shelves. This procedure provides a thin flat spine upon which an identifying label and/or call number can be placed.

Materials required:

20 point folder–stock.
Thread.
Mixture (50% PVA/50% methyl cellulose).
Cloth scrap.
Narrow strip of 4 ply mat board for spine of binding.

Procedure:

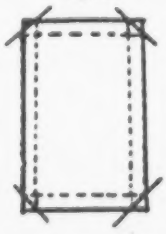
1. Cut 20 point folder stock. Determine height of binding: just a small amount taller than material to be bound to give binding a minimal square. You will need one piece double the width of the pages plus about 1 inch and 4 pieces a bit wider than the pages (width will be trimmed after sewing).
2. Cut narrow spine piece of 4 ply mat board the same height as folder stock and just wide enough for the thickness of the binding and for a typed label; in any case this should be no less than 1/4 inch wide.
3. Cut cloth for spine: 1.5 inches taller than spine strip and about 2 inches wide.
4. Sew through single folio and 20 point folder stock that has been creased sharply in the center and folded around folio, being careful to leave equal squares at head and tail. Finish with knot on the outside. If pages had been originally stapled, carefully remove staples and sew through same holes if possible. You may want to pierce additional sewing holes through pages and folder stock cover for a more secure attachment. Now trim foredges of folder stock cover just wide enough to match small square at head and tail.
5. Construct spine: Glue 4 ply mat board strip (about 1/4 inch wide and exact height of cover) in center of spine cloth. Cut as indicated in drawing; turn over cloth at head and tail and glue. Glue cloth and attach to front and back covers with spine neatly centered along the fold.
6. Trim remaining 4 pieces of 20 point folder–stock to about 1/4 inch less than the width of front and back covers. Glue up one piece and affix to inside of back cover, aligning top, bottom and foredges. Repeat with next piece on outside of back cover; this creates a stiff 3–thickness back cover; nip in drymount press. Repeat on front cover. Only a narrow strip of the cloth spine will show on front and back.
7. Type or laser print label and glue with mixture (50% PVA/50% methyl cellulose) to flat spine of pamphlet binding. Call numbers or other information can also be written on front cover.

THREE–PART SELF–CLOSING WRAPPER

A. Tray

1. Cut one piece of 10 point folder stock: The height of the book plus twice the spine thickness of the book by the width of the book plus twice the spine thickness of the book. (See figure A).
2. Fold all four sides one spine thickness in from the edge. (See figure A).
3. Trim the four corners of the folder stock. (See figure A).

Fig.A



Cut on solid lines
fold on dotted ones

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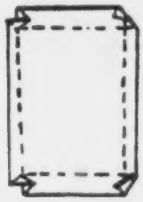
4. Fold the the corners inward to form a tray. (See figure B).
5. Place the book inside this tray and fold up all sides so that they hug the book. The "ears" lie along the top and bottom of the book, forming a dust seal. (See figure B). Keep the book in this tray while measuring for the next part.

Fig.B

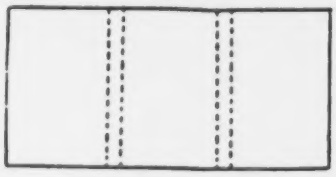


B. Wrapper

For ease of folding, the grain of the folder stock should be parallel to the spine of the book when making the wrapper.

1. For the horizontal piece, cut a piece of 20 point folder stock: the height of the book by three times the width of the book plus twice the spine thickness of the book. Fold this piece around the book. (See figure C). Keep the book in this horizontal piece while measuring for the next part.

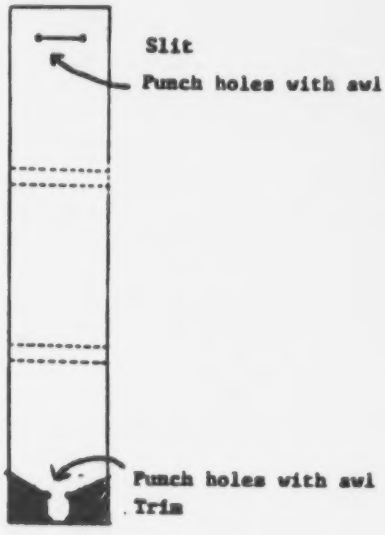
Fig.C

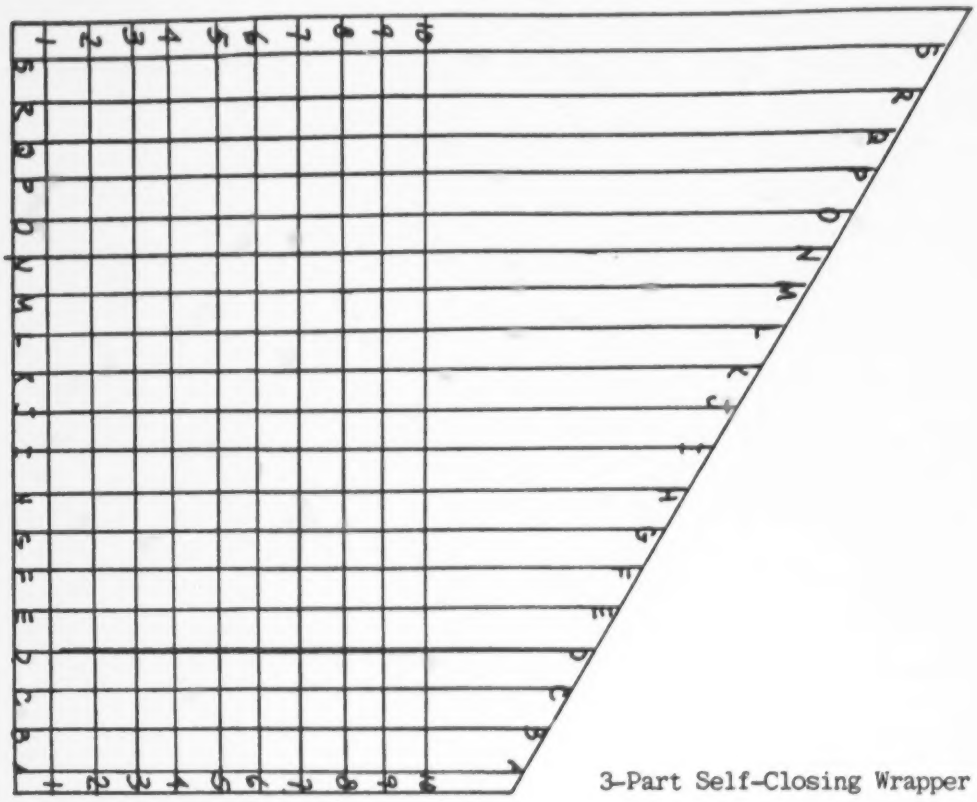


2. For the vertical piece, cut a piece of 20 point folder stock. The width of the book by three times the height of the book plus twice the spine thickness. Fold this piece around the book. (See figure D).

3. Take the vertical piece off to cut the tongue. The tongue should be about 2 inches wide and about 2 inches long. (See figure D). Use the gauge to choose an appropriate width for one side, then turn it over and line up the same number and letter on the other side. The tongue is less likely to tear if holes are punched at the corners with an awl before cutting. Cut the sharp points off the tongue to make it easier to insert into the slit.
4. Fold the vertical piece and measure for the slit. (See figure D). The slit should be less than 1/8 inch wider than the tongue. The slit is less likely to tear if holes are punched at each end of it with an awl before cutting. (The spine can be labeled at this point. It is much easier to do it now than after the wrapper is glued together).
5. Glue the tray onto the horizontal piece. Glue the horizontal piece onto the vertical one. Use UHU or other stick adhesive.
6. Number the flaps in the order in which they should be closed. Close the wrapper and insert the tongue into the slit.

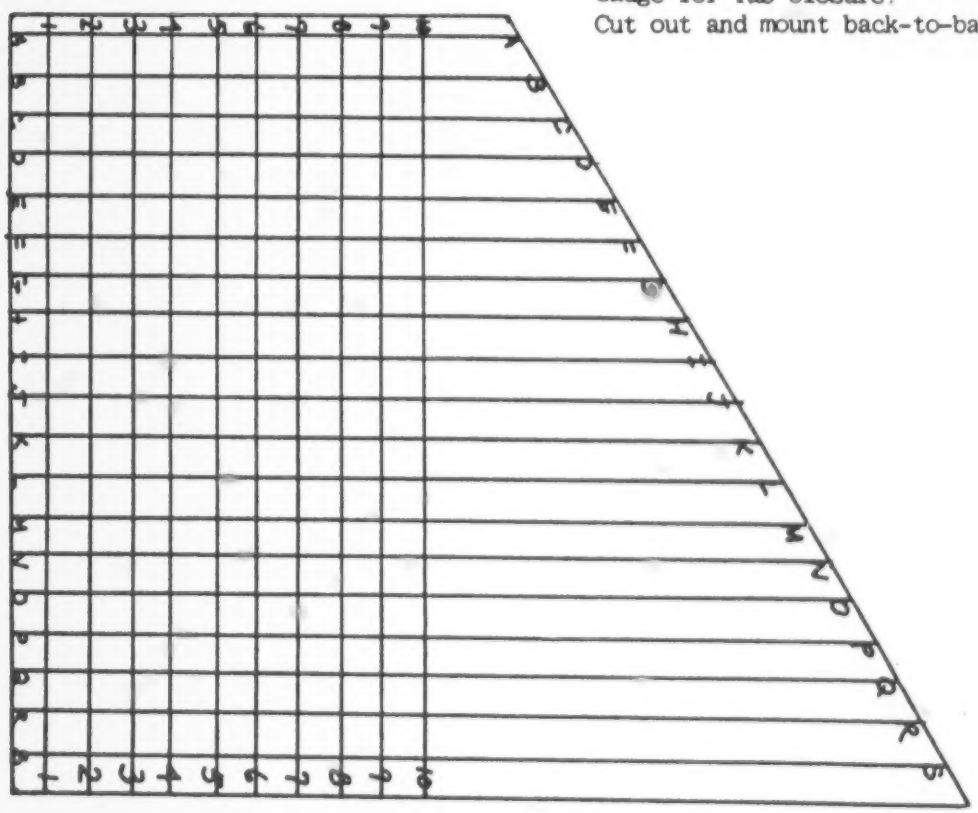
Fig.D





3-Part Self-Closing Wrapper

Gauge for Tab Closure:
Cut out and mount back-to-back.



WRAPPERS WITH MAGNETIC CLOSURES

by Elaine R. Schlefer (reprinted from *The Abbey Newsletter*).

Two methods for making wrappers with magnetic closures are described here. The closures have several advantages over the types now in common use, including ties, button, and Velcro snaps. Unlike ties or buttons, magnets produce no protruding parts on the cover or foredge, and require no extra effort to close the wrapper. Unlike Velcro, magnets produce wrappers which open easily without gathering loose fibers or dust and grabbing onto clothing; they make the boards close flat, neatly and firmly; and they are strong enough to hold the wrappers closed, but are not easily torn off the wrapper.

There are several additional factors that make these closures appealing, both for aesthetic considerations in private work, and for institutional concerns for production and cost:

- The magnets are quite cheap, about 1¢ per inch (for 1/4 inch by 0.060 inches).
- They glue easily with PVA, and are available with adhesive backing.
- They are easy to cut, with board shears, knife, or scissors.
- The wrappers are quick and easy to make.
- Most people find them more attractive than wrappers with other types of closures.

One potential problem which would be noted is that there is a possibility of the magnets affecting magnetic tape if stored near them.

One supplier for magnetic strips is: Adam Magnetic Products, 4547 W. Addison, Chicago, IL 60641 (312/286–6686). They have a catalog and a price list. They also have a minimum order of $25, for which you can get about 200 feet of the magnetic strips. (A thin strip of steel can also be used in place of one of the magnetic strip, though there may be more problems with cutting and attaching steel than rubber. Check local phone books for suppliers.)

MAGNETIC WRAPPER: TYPE A

(for single documents or thin pamphlets).

Materials:

2 ply museum board.

Thin cloth, such as Iris, Kennett, or van Heek.

Permalife, or other acid free paper for lining.

Two 1/4 inch strips of magnetic rubber, 0.060 inches thick, the height of the museum board (Note: Check the correct polarity of the magnets before you start by making sure they stick to each other).

Adhesive: PVA and methyl cellulose mixture (50/50).

Procedure:

1. Cut 6 pieces of museum board the height and width of the object. On two pieces, cut off 1/4 inch of the width.
2. Assemble Piece 1 of the wrapper as shown, using 3 full sized boards. Leave about 5/8 inches turn-in of cloth all around. Trim off the corners of the cloth. Turn the cloth over the boards, and line the inside with paper. For small wrappers, the lining can be a single strip of paper. For larger ones, cover the joints with cloth, and use paper panels to cover the boards. (Giving each assembled piece a nip in a dry-mount press can make the job faster.)
3. Assemble Piece 2 as shown in Figure 2. Note that the first and third boards are the narrower size. Abut the magnets against the boards. Cover and line as for Piece 1.
4. Glue the middle panel of Piece 1 on top of the middle panel of Piece 2. Close the wrapper and place under weights to dry.

Comment: The magnetic attraction is not as strong in this type of wrapper as in Type B, but it is strong enough to hold under normal conditions. The flaps should be marked to show the order in which they are to be closed, since the magnets are not visible. Even with a thin object, this wrapper gives enough space on the spine to affix a label, if desired.

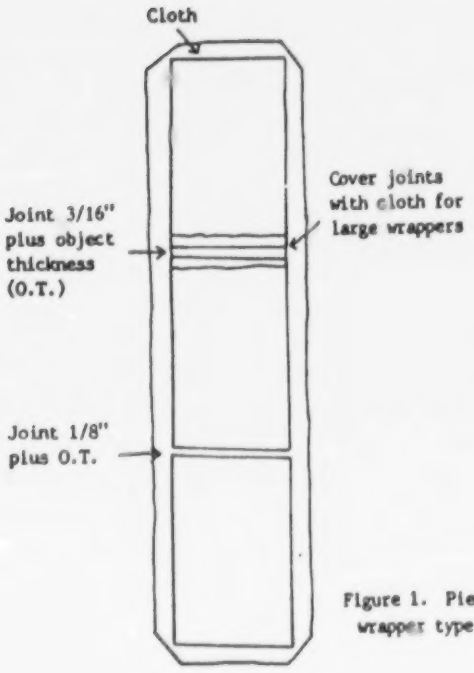


Figure 1. Piece 1, wrapper type A.

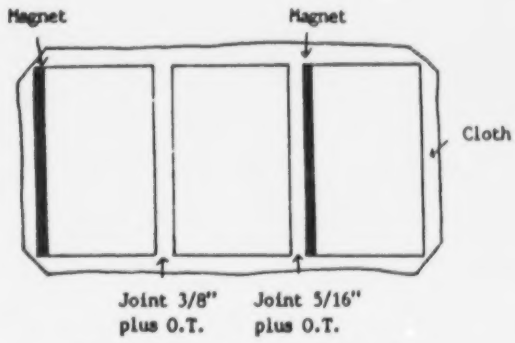


Figure 2. Piece 2, wrapper type A.

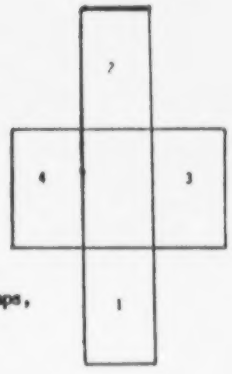


Figure 3.
Order of closing of flaps, wrapper type A.

MAGNETIC WRAPPER: TYPE B

(with Case – for books or thick pamphlets)

Materials:

10 point acid free folder stock (the grain should run parallel to the direction of the folds on each piece.

Binder's board.

Cloth.

1/4 inch strip of magnetic rubber, 0.060 inches thick (note: check the correct polarity of the magnets before you start by making sure they stick to each other).

Adhesive.

Procedure:

1. Make Piece 1: Cut a piece of folder stock the width of the book and 3 times the height plus twice the spine thickness (Figure 4). Crease the folds with a bone folder. Fold Piece 1 around the book.
2. Make Piece 2: Cut a piece of folder stock the height of the wrapped book, and twice the width plus the spine thickness (Figure 5). Crease the folds with a bone folder. Fold Piece 2 around Piece 1, leaving the spine side open.

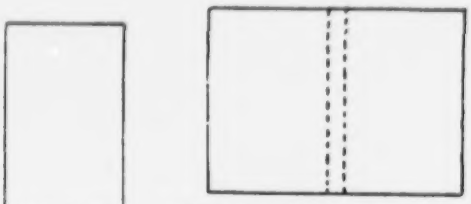


Figure 5. Piece 2, wrapper type B.

Figure 4. Piece 1, wrapper type B.

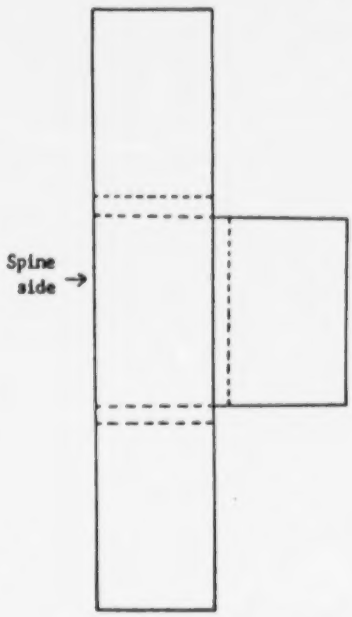


Figure 6. The assembled wrapper without case.

3. Glue Piece 1 on top of Piece 2 (Figure 6). Fold the wrapper around the book.
4. Cut two pieces of folder stock the height of the book in its completed wrapper, and the width of the book minus 1/4 inch (Pieces 3 and 4). Set them aside.

Case:

5. Cut two pieces of binder's board the height and width of the book in its wrapper, and one piece the same height and width of the spine of the book in its wrapper plus 1/8 inch.
6. Cut a piece of cloth large enough to cover the case, with 5/8 inches turn-ins. Assemble the case as for the cover of a folding box, leaving 1.5 board widths for the joints. Cover the inside spine area of the case with cloth.
7. Cut two strips of magnetic rubber the height of the wrapper.

Assembly of Wrapper and Case:

8. Glue the wrapper onto the right-hand side of the case. Glue or tape one magnetic strip along the right-hand folded edge of the closed wrapper and the other one along the left side of the case. Glue Piece 3 onto the wrapper, abutting the magnetic strip; glue Piece 4 onto the wrapper, abutting the magnetic strip (Figure 7).

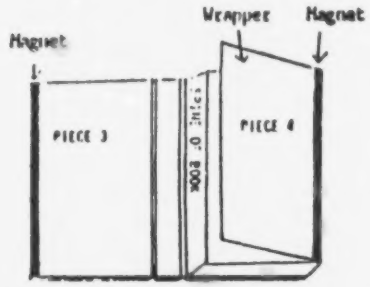


Figure 7. The assembled wrapper in its case. Piece 4 is laminated to the right flap of Piece 2. Piece 3 is laminated to the inside of the case.

A STRUCTURE FOR STORING LOOSE NEWSLETTERS

by Pam Barrios (now of HBLL Conservation Lab, Brigham Young University; reprinted from *The Abbey Newsletter*).

Institutions providing access to current issues of newsletters and magazines are faced with the problem of storing these loose issues, as they accumulate, before they are bound. They are usually piled on an open shelf, one on top of the other. Any attempt to file them vertically results in the buckling of the unsupported thin issue. John Balkema, head of Collection Maintenance at the New York Academy of Medicine, suggested to me an open–ended box file with an inner mechanism for holding single issues upright. I was able to develop a simple method for making these files. They can be measured to fit the height and width of each newsletter or magazine, and can be made any thickness, although they seem to function best when they are at least 2 inches thick. The box files will stand independently, and when single sheets of paper are placed inside they will be held upright by the pressure of the inner flaps.

The box file is formed by cutting and folding a single piece of 20 point folder stock which is available from most archival suppliers in an acid free form. The overall measurements are these: Height of the folder stock = the height of the box file + 2 times the spine width. Width of the folder stock = 4 times the width of the box file + the width of the spine + 1/4 inch.

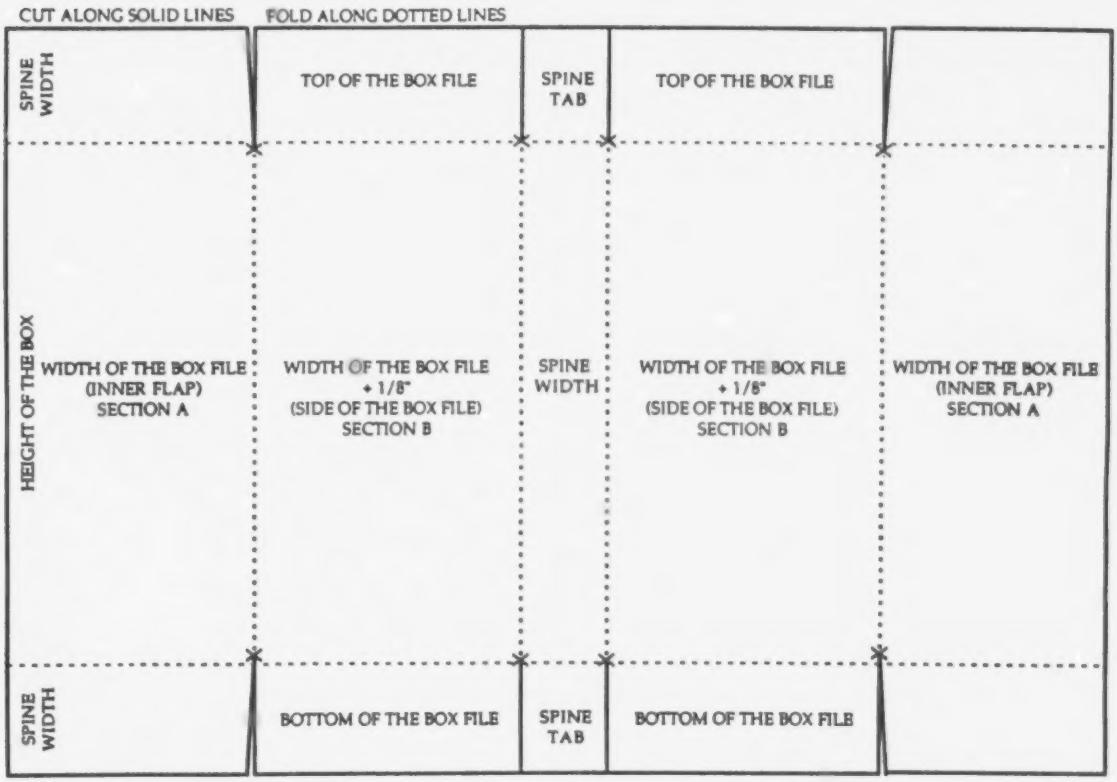
Measure and mark along the width of the folder stock: The width of the box file (this will become the inner flap); the width of the box file + 1/8 inch (this will be the side of the box file); the width of the spine; the width of the box file + 1/8 inch; and the width of the box file.

Measure and mark along the height of the folder stock: the width of the spine (this will be cut to form the overlapping parts of the top or bottom of the box file, and the spine tab); the height of the box file; and the width of the spine.

Score at a right angle to the edge of the folder stock at each of these marked measurements, along the entire height or width of the folder stock. All folds will be inward, and the marked measurements will be on the inside of the box.

To form the two parts which overlap at the top or bottom of the box file, and the spine tab, cut where indicated by each solid line on the diagram, beginning with point "x" for better control of the length of the cut. Notice that the cut which delineates section "A" is larger than that which delineates the spine tab by at least one thickness of folder stock.

Fold in the top and bottom of Sections "A," along the scored lines. Fold in section "A." Fold in the two sections of the top, and glue them together, with the spine tab sandwiched between them. Repeat this procedure to form the bottom of the box file.


CUT ALONG SOLID LINES
FOLD ALONG DOTTED LINES
SPINE WIDTH
TOP OF THE BOX FILE
SPINE TAB
TOP OF THE BOX FILE
HEIGHT OF THE BOX
WIDTH OF THE BOX FILE (INNER FLAP) SECTION A
WIDTH OF THE BOX FILE + 1/8" (SIDE OF THE BOX FILE) SECTION B
SPINE WIDTH
WIDTH OF THE BOX FILE + 1/8" (SIDE OF THE BOX FILE) SECTION B
WIDTH OF THE BOX FILE (INNER FLAP) SECTION A
SPINE WIDTH
BOTTOM OF THE BOX FILE
SPINE TAB
BOTTOM OF THE BOX FILE

POLYESTER FILM BOOK SUPPORTS

by Susan B. Martin, Book Conservator, New York Academy of Medicine (reprinted from *The Abbey Newsletter*).

Faced with a need to fabricate book supports on short notice for an exhibit at the New York Academy of Medicine, I experimented with designing them in 5–mil polyester film. We had been making two–piece book cradles of binder's board covered with book cloth which were time–consuming to construct. Since the books for this particular exhibit were all fairly small and light in weight (ranging from 3 inches – 8 inches tall and from 1 inch – 2 inches thick), I thought of using polyester film. I constructed a book support which consisted of one length of polyester film folded to form the shape of two wedges on a base. As in any exhibit, the degree to which the books could be opened varied and so I naturally wanted to allow each to rest in a safe and comfortable position. The support was designed to accommodate a particular book and the result was that the volume was evenly supported across its boards and spine and rested open at an angle appropriate to that book.

The outcome of the experiment was that in a matter of minutes an exhibit support was fabricated that exactly fit one volume. The beauty of the polyester film structure is that the surface acts as a flexible support which can conform to irregularities in the shape of the book's boards and therefore distributes the weight of the book evenly. Added advantages are that the material used is archivally sound and relatively inexpensive; the time involved in fabrication is minimal. Also, once installed, the support is aesthetically pleasing: the books appear to float in the case. The support does not call attention to itself and the viewer can enjoy looking at the displayed pages without the distraction of an elaborate or cumbersome support system. All that can be seen are some reflections off the polyester film. The support, slightly smaller in height and width than the book resting on top of it, is nearly invisible. I dubbed it the "un–cradle."

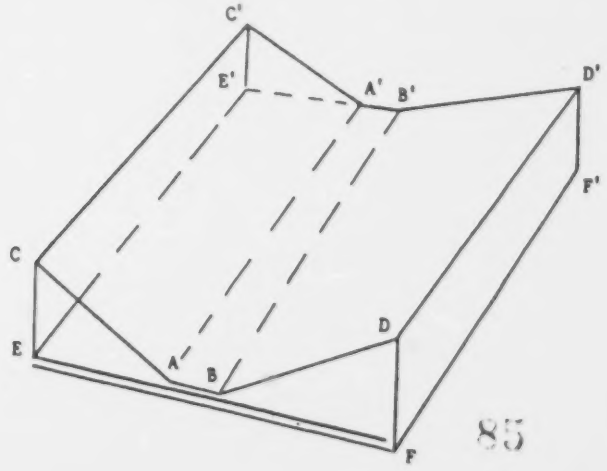
CONSTRUCTION

As a rough measurement, I cut a rectangle of 5 mil polyester film approximately three times the girth of the book by slightly less than three times the height of the book (the point being to have a support slightly smaller than the book). I then fold the film into thirds, forming a long strip three times the girth of the book by slightly less than the height of the book. At this point, I crease the polyester film ("valley" fold AA') with a bone folder just slightly to the left of the center of the folded strip to mark the spot for the left side of the book's spine. Next, I crease the polyester film one spine's width to the right ("valley" fold BB') for the other side of the spine; now there is an exact place for the spine of the book to rest. The next fold ("mountain" CC') is made just slightly less than the width of the front board and a corresponding "mountain" fold is created for the back board (DD').

At this point it is necessary to place the book in the position desired for the exhibit, open to the display pages. From this I measure the height of the book's foredge above the table and make a corresponding "mountain" fold in the polyester film (EE'). This forms the left turn-in for the support's base, a right angle (CEA). The same process is repeated to form the other right angle (DFB). The two wedges thus formed are not necessarily the same size but they exactly fill the space upon which the book will "float." This completes the folding of the polyester film. I can then place the book in its exhibit position on the nearly completed polyester film support and adjust the base sections to maintain the right angles and establish the finished shape. Since the original polyester film rectangle is three times the girth of the book, the two base sections project beyond the sides of the wedges; the excess is trimmed off neatly on the board shears. I secure the finished shape of the support with double-sided tape (3M 415) at either end of the base (E' and FF'). If desired, tape could also be applied to the underside of the spine areas of the support to secure it firmly to the base.

The above construction was all that was required for the small books in this particular exhibition. From beginning to end, it took about fifteen minutes to complete a polyester film "un-cradle." When later experimenting with substantially larger, heavier books, I found that one quick modification was all that was necessary to accommodate these as well. I added this step after all of the above had been completed. I cut pieces of 4-ply museum board just a hair less than the height of each of the wedges (CE and DF) by a hair less than the depth of the support (EE' and FF') and inserted these two rectangles into the slots created by the thrice-folded polyester film (CE and DF). These "legs" provided the additional strength required to stabilize the mount when supporting a heavier book. I have successfully supported books up to 10 inches x 14 inches, 4 inches thick, and weighing as much as 11 pounds. The addition of the stabilizing board does detract from the airy quality of the polyester film support but one could cover the outside of the board with a plain or decorated paper to give an attractive appearance.

We have used these polyester film book supports in several exhibitions in the Rare Book Room at the New York Academy of Medicine. The supports work well, they are inexpensive and easy to construct, and they can be stored or discarded after use.



The Library of the New York Botanical Garden: Basic Collection Preservation Care Program

Judith Reed, Conservation Librarian
Bronx, New York

The Library of The New York Botanical Garden in the Bronx is one of the world's largest plant science literature collections. Founded originally to support the research and educational work of the Garden, it now serves a broadly defined public audience. It is the only major plant science library in the metropolitan New York City area and, with Cornell University, shares statewide responsibility for providing library and plant information services to the plant science research and academic community and to the public.

The New York Botanical Garden Library's research collection contains over 196,000 volumes (over 114,199 titles including 9,000 serial titles); over 108,509 reprints; 2,023 linear feet of archives and manuscripts; 28,097 microforms; 10,055 items of botanical art; over 150,000 architectural plans; and 3,600 artifacts.

A program of book preservation was begun in the Library in the mid–1960's in conjunction with a major collection recataloging project. When books were recataloged, they were cleaned, and those which needed care were put into wrappers or pamphlet bindings. As preservation efforts evolved and staff members were trained in binding and conservation, more sophisticated and current techniques and operations were possible. Eventually a program for book preservation emerged. It continues in practice today.

A descriptive outline of the process includes the following components. Books are cleaned and cataloged. Those volumes needing no further attention are returned to the shelves. Other materials are sent to the conservation staff for such basic preservation attention as wrappers (for brittle books or ones needing extensive conservation) or pamphlet bindings. Books requiring rebinding (including rebacking or recasing), as well as materials which need basic paper repair, are cared for in–house. When appropriate, a variety of preservation enclosures, such as clamshell boxes or slipcases, are made by the conservation staff.

Outside funds are regularly sought to cover costs of major conservation projects. Such work is generally carried out by The New York Botanical Garden Conservator in collaboration with outside contract conservators.

The recataloging of the collection has recently been completed. Books in need of preservation/conservation treatment will be drawn systematically from those identified in the item–specific surveys that have been carried out over the past several years, as well as those volumes brought to the attention of the Conservator by Library staff members and users. Books needed for specific purposes, such as exhibition, are given priority treatment.

The conservation staff consists of one full–time conservator and 3–5 volunteers. The Conservator holds the title Conservation Librarian and serves as the preservation administrator, as well as the practicing conservator. The staff is non–union.

The Conservation Librarian received her training in bookbinding and book conservation from Laura Young in New York City. She holds the AMLS degree from the University of Michigan. Volunteers are trained and supervised by the Conservation Librarian. Most of the volunteers do a variety of preservation work, although some have a wider range of skills than others. The conservation Librarian determines the preservation treatment. When appropriate, such decisions are made after consultation with staff librarians.

The basic Preservation Repair Unit is an integral part of the overall preservation program and shares space in the Conservation Bindery. The same budget covers all of the preservation activities.

The Library's approach to preservation care tends to be relatively conservative, reflecting both the Library staff philosophy and the Conservation Librarian's training under Laura Young. However, a 'do nothing' approach is not considered appropriate or acceptable.

Techniques continue to evolve as new information becomes available in the field of library materials conservation.

The Conservation Librarian is encouraged to attend a wide variety of conferences, workshops, lectures, etc., to strengthen her skills, broaden her background, and remain up–to–date on new conservation information. She serves on a number of professional committees in both the fields of library conservation and librarianship.

CURRENT TECHNIQUES

PAMPHLET BINDINGS

Problem treated: soft–cover books which need sturdy covers but do not require full case bindings.

Adhesives used: mixture (50% PVA/50% methyl cellulose) for attaching spine cloth and sewn cloth hinge (these are non–adhesive bindings).

Materials used:

Buffered pressboard.
Spine cloth (generally cut–offs from binding).
20 pound buffered paper.
Linen thread.

Work time: single sheets — 30 minutes; single signature — 30 minutes; two signature — 40 minutes; multi–signature — varies (depending on the number of signatures and whether or not pamphlet needs resewing).

REBACKING

Problem treated: damaged spine with very strong inner joint; sewing strong.

Adhesives: mixture (50% PVA/50% methyl cellulose).

Materials used:

Bookcloth.

Work time: 30–45 minutes.

RECASING

Problem Treated: damaged spine with weak or broken inner joint; sewing strong.

Adhesive used: mixture (50% PVA/50% methyl cellulose).

Materials used:

Bookcloth.
Linen thread.
Buffered paper (when endpapers need to be replaced).

Work time: 45–60 minutes.

Note: Complete disbinding and resewing of a book are not considered basic preservation and would be carried out by the Conservator.

PROTECTIVE ENCLOSURES: SELF–CLOSING WRAPPER

Problem treated: books or journals with brittle paper; items needing major conservation treatment at a later date; runs of journals to be bound at a later date; incomplete runs of journals.

Adhesives used: mixture (50% PVA/50% methyl cellulose).

Materials used:

20 point buffered bristol.

Work time: 20 minutes.

PROTECTIVE ENCLOSURES: TWO–PART FOLDER

Problem treated: one or several page items of fragile or brittle paper; non–book format materials (e.g., folded maps).

Adhesives used: mixture (50% PVA/50% methyl cellulose).
Materials used:
Buffered pressboard.
Spine cloth (generally cut–offs left from binding).
Buffered envelope.
Work time: 15 minutes.

PROTECTIVE ENCLOSURES: THREE–PART FOLDER

Problem treated: light–weight materials which need permanent protection but which do not require a clamshell box; loose sheets which need a protective enclosure but which do not require a clamshell box.
Adhesives used: mixture (50% PVA/50% methyl cellulose).
Materials used:
Buffered pressboard.
Spine cloth (generally cut–offs left from binding).
20 point buffered bristol (for inner wrapper).
Work time: 30 minutes.

PAPER REPAIR

Problem treated: guarding signatures of pamphlet binding when necessary; preparing endsheets for multi–signature pamphlets or for books being recased.
Adhesives used: wheat paste for guarding with Japanese paper; mixture (50% PVA/50% methyl cellulose) for attaching cloth hinges to endsheets.
Materials used:
Japanese paper.
Buffered paper.
Bookcloth.
Work time: 5–10 minutes (varies).

Note Instructions for a number of the procedures described above can be found in Kyle, Hedi. (1983). *Library Materials Preservation Manual.* Bronxville, NY: Nicholas Smith.

Collections Maintenance Activities at The New York Public Library, Research Libraries

Jo Anne Martinez, Head, Phased Treatment and Collections Maintenance Unit
Marc Reeves, Head, Conservation Lab
New York, New York

THE INSTITUTION AND ITS COLLECTIONS

The New York Public Library is the second largest research library (after the Library of Congress) in the United States. According to the Library's 1989–1990 statistical report, the non-circulating collections are estimated at 35 million catalogued items, including 6 million bound volumes, 35,000 scrapbooks, 20 million manuscripts, 3 million pictures and photographs, 1 million programs and playbills, 385,000 maps, and 35,000 posters. There are four research library centers: the Humanities and Social Sciences Center (the Central Research Library), the Performing Arts Research Center at Lincoln Center, the Schomburg Center for Research in Black Culture, and the new Science and Business library to be located in the old B. Altman building on 34th Street. Additional collections are housed at the 43rd Street Annex.

PHASED TREATMENT AND COLLECTIONS MAINTENANCE UNIT

The Phased Treatment and Collections Maintenance Unit (PT/CMU) of the Conservation Lab was formed in 1988 as an attempt to deal with preservation needs in two areas: 1) treatment and protection of low use artifactual or semi-artifactual material in the non-circulating general stacks of the Research Libraries; 2) repair requirements of heavily used open shelf reference materials. Each year the Unit produces 17,000 phased boxes and other types of enclosures using two to four staff members. In addition, the Unit reviews, inspects, and coordinates all commercial rebinding performed for NYPL. An in-house rapid repair and recasing capability is under development in order to achieve faster turn-around time and more suitable repair and rebinding specifications than are currently available commercially.

The Phased Treatment and Collections Maintenance Unit will also participate in the Conservation Lab's Macintosh-based comprehensive selection and specification computer program, designed to provide rapid processing of various preservation options (see graphic). A number of the automated specification "modules" are presently in operation: phased boxing, commercial rebinding specification and tracking, and microfilming processing. The modules have now been combined into an integrated program with provision for conducting all selection (including access to bibliographic utilities), specification, and processing while in the stacks. One step shelf-to-shipment or shelf-to-camera processing is anticipated, along with the capacity to specify and then perform the treatment or other preservation options at a later date, presumably after funding is secured.

ORGANIZATION AND STAFFING

The Conservation Division of the New York Public Library is comprised of four offices with a total staff of eighty-seven: the Shelf and Binding Preparation Office, The Preservation Microfilming Office, the Preservation Microfilming Lab, and the Conservation Laboratory. The PT/CMU is part of the Conservation Laboratory, which has a total staff level of nineteen, including five graduate-trained conservators. PT/CMU has a staff of six. The fabrication of enclosures is performed by four hourly-paid positions, typically filled by persons with no prior training in conservation. Two remaining permanent positions in the Unit are filled at the Conservation Technician level (one to three years of experience) and at the Assistant Conservator level (graduate education in conservation or equivalent).

Although the budget of PT/CMU is separate, materials are shared between all sections of the Conservation Lab. The personnel of the Conservation Lab cooperate on many large projects

such as disaster recovery, processing of large batches of contractual work, and the shipping and receiving of items. Training of staff primarily takes place in-house.

PHILOSOPHY OF TREATMENT

The priorities of the PT/CMU for low use items incorporate standardized specifications and minimum intervention. Minor repair and protective enclosure are emphasized. The priority for high use reference items is on heavy duty recasing and quick turn-around time.

WORK FLOW

The Phased Treatment and Collections Maintenance Unit treats items from all 25 divisions of the library. Items are brought to the attention of divisional conservation representatives by various means: when the item is requested by a user, through review of the shelves when a representative is gathering items for a meeting, when another staff member calls attention to an item, when items are transferred between divisions, and when items enter the collection. In addition, many newly acquired items arrive with conservation problems. Treatment projects comprised of items of similar treatment specification (in contrast to item-by-item selection) are encouraged.

Routine collection maintenance work enters the Unit through regular appointments the representatives may make with the head of PT/CMU every other week. Each item is accompanied by a form. The conservation representatives may recommend treatment for an item and discuss any questions they may have at the meeting. Divisional quotas have been established limiting both the total number of items treated and those which can receive rush service.

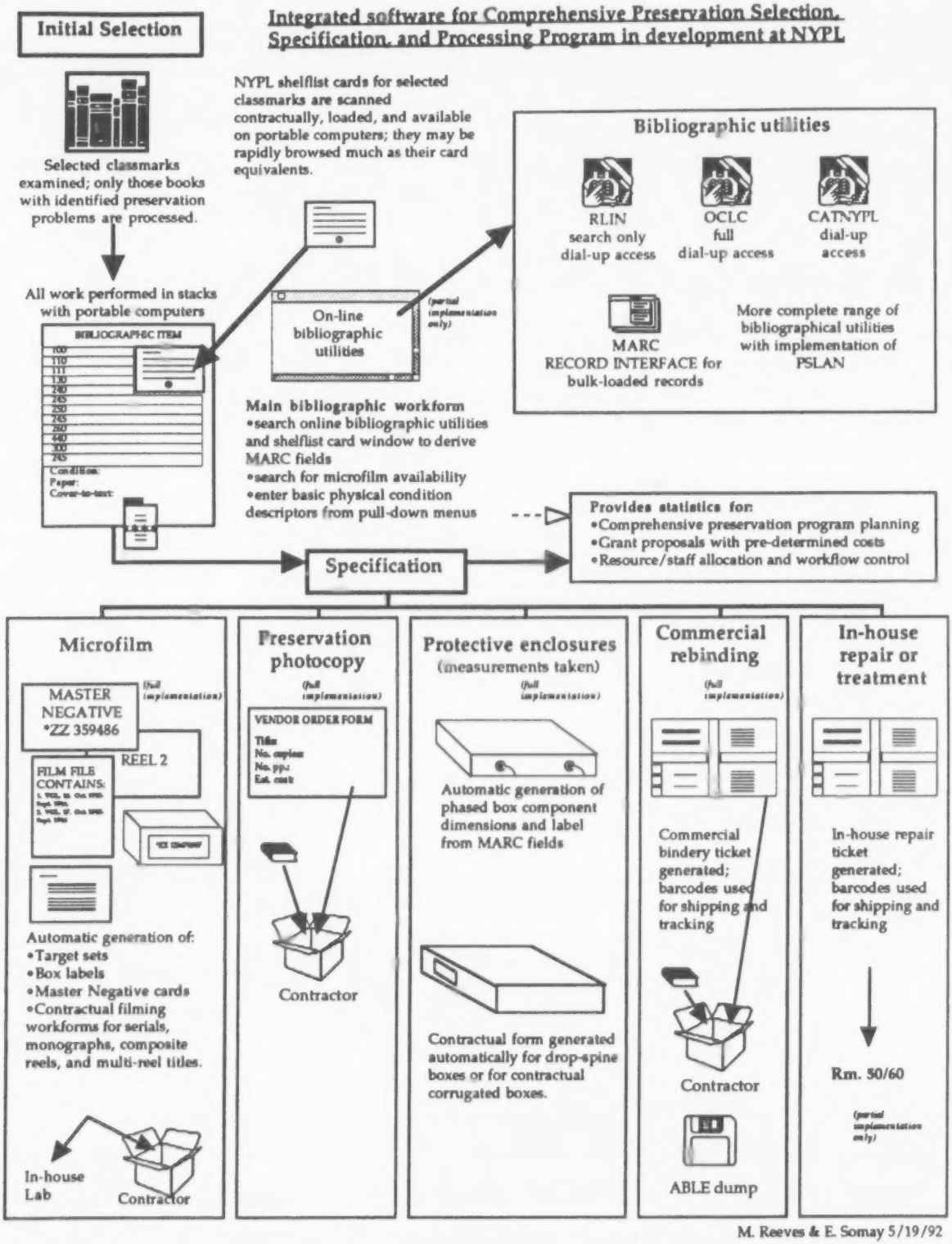
The phased boxing program provides protective enclosure for a large number of items while the items remain on the shelf. Divisional staff enters measurement and bibliographic data into either a DOS or Macintosh database or spreadsheet, and forwards the disk to Conservation. From this data, box dimensions and labels are automatically generated by our Macintosh computer. Phased boxes and four flap folders with labels are constructed for the items in approximately one week. Items too large to be fabricated in-house are ordered from a contractual vendor (presently items taller than 18 inches). This computer program is provided on request to other institutions without charge.

SPECIFICATIONS

- heavy duty recases — stamped labels.
- recases retaining original covers.
- tip ins of six leaves or less — indexes, addenda, mutilations.
- leaf repair — mutilation, fold-out materials.
- non-aqueous deacidification — encapsulation.
- pamphlet binders — items sewn in.
- standard phased boxes.
- four flap folders — 12 standard sizes.

HISTORY OF REPAIR FUNCTION AT NYPL

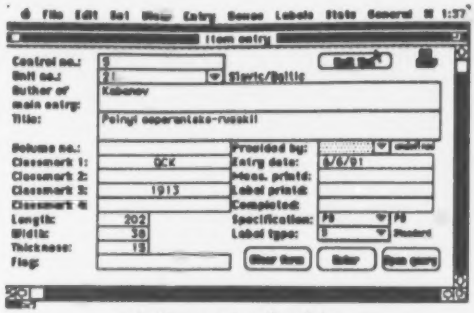
The NYPL Bindery began operation in 1913 with a staff of seventy, two years after the library opened. All binding and "collections maintenance" was performed by this Unit. The Library began using contractual library binders during the 1950's and closed the bindery in the late 1970's through staff attrition and transfer. The Shelf and Binding Preparation Office in Conservation Division now coordinates the binding of newly acquired items with commercial binders.


Initial Selection
Integrated software for Comprehensive Preservation Selection, Specification, and Processing Program in development at NYPL
Selected classmarks examined; only those books with identified preservation problems are processed.
All work performed in stacks with portable computers
NYPL shelflist cards for selected classmarks are scanned contractually, loaded, and available on portable computers; they may be rapidly browsed much as their card equivalents.
On-line bibliographic utilities
(partial implementation only)
Bibliographic utilities
RLIN search only dial-up access
OCLC full dial-up access
CATNYPL dial-up access
MARC RECORD INTERFACE for bulk-loaded records
More complete range of bibliographical utilities with implementation of PSLAN
Main bibliographic workform
•search online bibliographic utilities and shelflist card window to derive MARC fields
•search for microfilm availability
•enter basic physical condition descriptors from pull-down menus
Provides statistics for:
•Comprehensive preservation program planning
•Grant proposals with pre-determined costs
•Resource/staff allocation and workflow control
Specification
Microfilm
MASTER NEGATIVE *ZZ 359486
(full implementation)
REEL 2
FILM FILE CONTAINS:
Automatic generation of:
•Target sets
•Box labels
•Master Negative cards
•Contractual filming workforms for serials, monographs, composite reels, and multi-reel titles.
In-house Lab
Contractor
Preservation photocopy
(full implementation)
VENDOR ORDER FORM
Contractor
Protective enclosures (measurements taken)
(full implementation)
Automatic generation of phased box component dimensions and label from MARC fields
Contractual form generated automatically for drop-spine boxes or for contractual corrugated boxes.
Commercial rebinding
(full implementation)
Commercial bindery ticket generated; barcodes used for shipping and tracking
Contractor
ABLE dump
In-house repair or treatment
In-house repair ticket generated; barcodes used for shipping and tracking
Rm. 50/60
(partial implementation only)

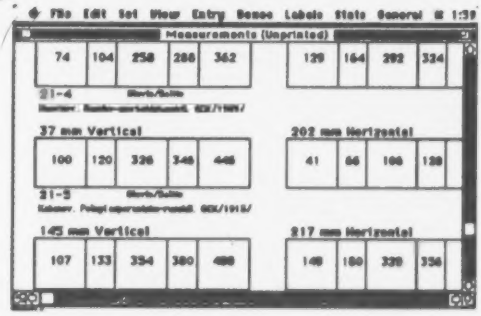
M. Reeves & E. Somay 5/19/92

NYPL Phased enclosure computer program: operations

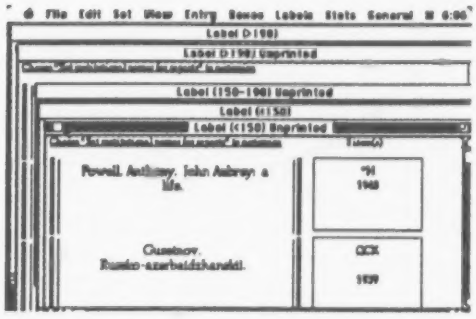
•book is measured off-site & dimensions & titling information recorded in several ways



main item entry/load form

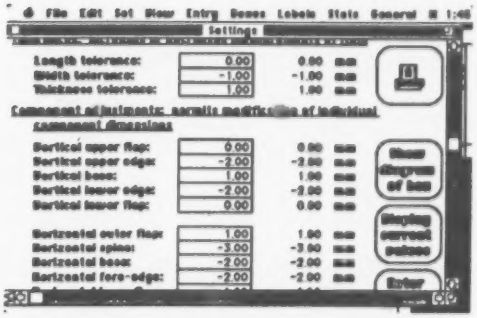


•measurement sheets printed
•stock previously cut to standard sizes at 20cm intervals cut to exact dimensions
•creasing intervals ticked with pencil
•creased
•corners rounded on pedestal maching
• board components glued together
•holes for rivets and washers marked and drilled with kick press
•washers and line ties riveted in place

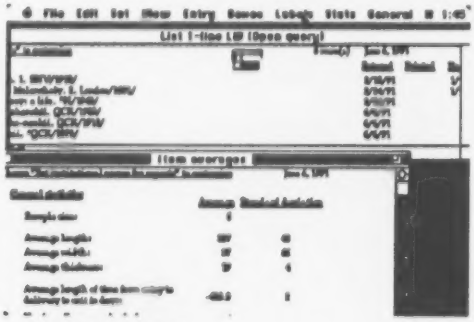


•labels printed in three sizes depending on length of book; 5-6 labels per sheet
•provision is made for small type for long titles
•full version provides horizontal labels and dumps to Microsoft Work merge file for customization; NYPL has chosen to use the vertical label exclusively

•label affixed
•inspection
•scanned by bar code wand, and box joins book on shelf

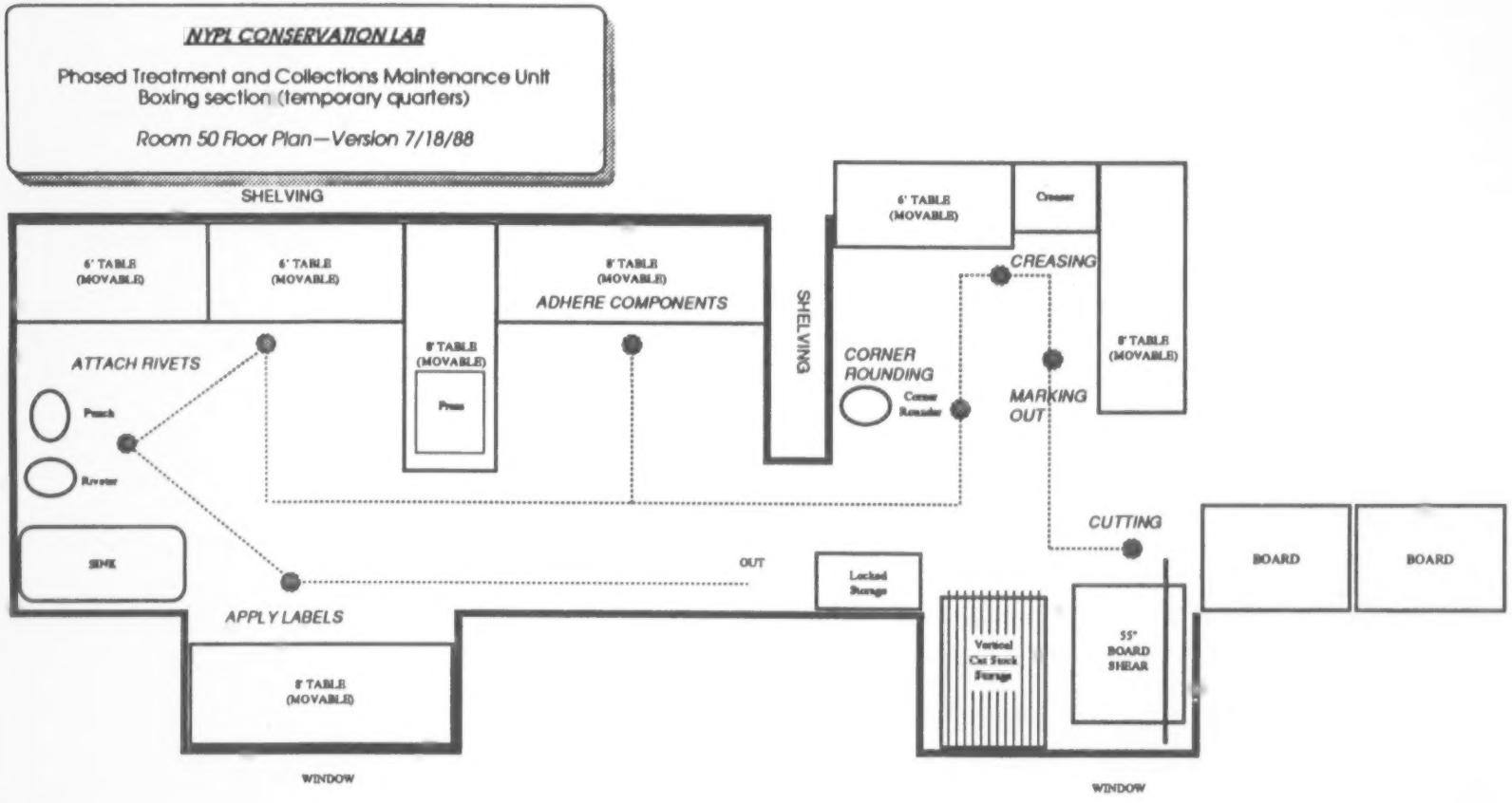


•tolerances adjusted for changes in materials or equipment (option never exercised at NYPL)



•statistical reports generated automatically

BEST COPY AVAILABLE


NYPL CONSERVATION LAB
Phased Treatment and Collections Maintenance Unit
Boxing section (temporary quarters)
Room 50 Floor Plan—Version 7/18/88
SHELVING
6' TABLE (MOVABLE)
6' TABLE (MOVABLE)
8' TABLE (MOVABLE)
Press
8' TABLE (MOVABLE)
ADHERE COMPONENTS
SHELVING
6' TABLE (MOVABLE)
Creaser
CREASING
8' TABLE (MOVABLE)
ATTACH RIVETS
Punch
Riveter
CORNER ROUNDING
Corner Rounder
MARKING OUT
CUTTING
SINK
OUT
Locked Storage
BOARD
BOARD
APPLY LABELS
8' TABLE (MOVABLE)
Vertical Cut Stock Storage
55" BOARD SHEAR
WINDOW
WINDOW

New York University, Elmer Holmes Bobst Library
Institutional Profile

Paula De Stefano, Head, Preservation Department
Elmer Holmes Bobst Library
New York, New York

BACKGROUND STATEMENT ON THE COLLECTION

The New York University (NYU) Libraries include the Elmer H. Bobst Library, the general University Library; the Graduate School of Business Library; the School of Law Library; the School of Medicine Library; the School of Dentistry Library; the Institute of Fine Arts Library which includes the Conservation Center Library, the Courant Institute of Higher Mathematics Library; the Institute of Environmental Medicine Library, and the Real Estate Institute Library. Together these libraries house over 3,511,942 volumes, 2,867,794 microforms, 28,817 current serial titles, 53,000 audio-visual items, and approximately 5,000 linear feet of archives and manuscripts. Their combined budget exceeds $19 million annually.

Also under the auspices of New York University Libraries are the libraries of Cooper Union for the Advancement of Science and Art, the New School for Social Research, and Parson's School of Design, all of which are members of the Research Library Association of South Manhattan.

The NYU library collections have been developed in support of the University's diverse graduate programs as well as to serve its large undergraduate population. Our preservation challenge ranges from keeping recent and *very* heavily used volumes in good repair to replacing, reformatting or otherwise protecting our very brittle collection of older materials. The latter includes books and serials purchased for our Latin American and Near Eastern area studies programs; our extensive collection of United Nations documents; our special collections of English and American literature and Judaica; and our general retrospective collection of standard works in the humanities, social sciences and sciences.

HISTORY OF THE PRESERVATION PROGRAM

Efforts to establish a formal preservation program at NYU began in 1979 when a preservation committee was established. The committee first turned its attention to disaster planning and wrote and published the *Disaster Plan Workbook* which has been made available to many libraries. In 1980, an in-house Bindery/Repair Unit was formed in Bobst Library. The Northeast Document Conservation Center (NEDCC) conducted a conservation survey of the Bobst Library in 1983. Their report helped to define the Library's preservation needs and set priorities for the future. Since these early years, the scope of the preservation program at NYU has expanded to include collections conservation, preservation microfilming, preservation photocopying, environmental control, student and user awareness, disaster preparedness, and continues to include commercial bindery processing.

CURRENT CONSERVATION/PRESERVATION ACTIVITIES

The Preservation Department is administered by the preservation librarian who reports to the director of Collection Services. The department includes a preservation supervisor, two conservation technicians, one preservation technician, two bibliographic assistants and a number of part-time student assistants. In addition, staff in related departments assist with identifying and screening materials for preservation.

The preservation program in Bobst Library is aimed primarily at treating material in the circulating collection. Books which have been identified for repair are sent to the preservation department. The preservation manager reviews all of the materials for preservation.

Volumes with a strong text block and good, non-brittle paper are sent to our binder for rebinding. Pre-1932 volumes and volumes that are more fragile and not likely to survive the

physical stress of commercial binding are treated in our in-house conservation lab. Recently named the Barbara Goldsmith Conservation Laboratory, the lab supports a strong collections conservation program. Currently, two full-time conservation technicians, with the assistance of a part-time student, attend to the conservation needs of the general collection materials and special projects for special collection materials.

Volumes with pages that are too brittle for conservation treatment are processed in our brittle book replacement program. Materials for which there are no existing in-print or microform replacements are reviewed for preservation microfilming. Two FTE bibliographic assistants support the searching, preparation and inspection activities. Since the Library does not have an in-house preservation microfilming facility, an outside microfilm vendor is contracted for our filming needs. All vendors are required to adhere to ANSI and AIIM standards for archival quality microfilm, as well as the technical standards specified by the Research Libraries Group and published in the *RLG Preservation Manual.*

NYU participates in cooperative, grant funded projects, both within the New York State comprehensive research libraries network and as a member of the Research Libraries Group. New York State projects have included reformatting of deteriorating newspapers, audio tapes and photographic negatives, as well as preservation photocopying of music scores. As participants in Phase II of the RLG Great Collections Microfilming Project (GCMP II), NYU will preserve 7,350 volumes of the British fiction held in the Fales Collection. NYU's Wagner Archives is also participating in the RLG Archives Preservation Microfilming Project (APMP).

Other components of the NYU preservation program include environmental control, disaster preparedness, staff training, and patron awareness. Well placed hygrothermographs measure temperature and humidity in the Libraries archives and special collection areas on a weekly basis. In addition to the *Disaster Plan Workbook,* the Library recently appointed a Disaster Preparedness Committee to further prepare the Library in the event of a disaster. On several levels, staff in the preservation department and other areas of the library are encouraged to improve their skills and understanding of preservation and conservation by attending workshops both inside and outside the Library. Patron awareness is achieved primarily through handouts, such as the Library Information Bulletin, bookmarks containing preservation messages, a book handling video, a rain bag, and a very thorough exhibit installed once a year that depicts common preservation issues and how NYU's preservation program resolves them.

THE COLLECTIONS CONSERVATION PROGRAM

Damaged and deteriorating volumes in need of preservation treatment are identified by circulation staff and routed to the preservation department. Circulation staff set aside volumes on shelves designated for preservation and preservation staff pick up volumes on a biweekly basis. The bindery manager reviews each of these volumes and sorts them according to their appropriate treatment, i.e., commercial rebinding, conservation, or brittle book replacement. Volumes identified for conservation treatment are not reviewed by subject specialists unless they belong to a large set. In that case, the entire set is reviewed for treatment.

Conservation staff examine items routed to the lab and determine treatment specifications. They efficiently organize their work by type of treatment to maximize their time. Because Bobst general collection materials are so heavily used, recasing is the most highly used form of treatment. When a volume arrives in the lab for treatment, conservation staff take the opportunity to strengthen the item as much as possible so that the item is not returned for treatment again soon after. In other words, if a heavily used volume is loose in its case, conservation staff will take the opportunity to recase it, rather than simply tighten the joints. This applies, of course, only to general collections materials. Approximately eight to twelve recases are completed a day. Because of the high volume of recases, the average turn around time for them is approximately three months, including the time spent awaiting treatment in the treatment queue. Turn around time for other items is approximately two

weeks. These other treatments include rebacking, box making, some rebinding and washing, and paper mending.

There is no quota system used to allocate conservation treatments. Treatments are prioritized by the conservation staff. Volumes needing conservation treatment are placed in a queue and treated on a first–in, first–out basis. Generally speaking, reference items and items needed for the reserve desk receive priority treatment. Special collection projects are scheduled around daily treatment activities and are assigned priority if needed. Most of the materials treated in the lab are from the circulating collection, but in–house conservation staff provide limited treatments for special collection items as well. Additional treatments for special collection materials is provided for by free–lance conservators. The decision to treat a special collection item in–house or contract with an outside conservator is made by the head of the preservation department in consultation with the curator of the collection, as well as the conservation technicians.

New staff members are expected to have experience and well–developed skills in bookbinding and conservation techniques. They are expected to maintain a current level of understanding in conservation through the information published in professional literature and are encouraged to pursue professional development opportunities. In addition, conservation staff serve on committees whose charge relates to preservation, or an aspect of it, e.g., disaster planning, exhibits, etc.

CURRENT TECHNIQUES

PAMPHLETS

Purpose: For fragile pre–1932 single fold items under 50 pages.

Procedure: The original sewing or staples are removed and the text is sewn into a folded piece of heavy museum board cut to the exact size of the text block with a five–hole butterfly stitch (the knot is on the outside). The pre–made pamphlet folder is cut with a 1/8 inch square at the head and tail and 1/4 inch square at the foredge to compensate for the bulk at the inner margin. Moisten the self–adhesive tape with water and place sewn pamphlet correctly inside. Press the tape down firmly. Place entire folder under weight for 15 minutes. Round sharp corners.

Materials:

Heavy weight museum board, University Products, $1.00 ea.
18/3 thread, Talas, $8.10/spool.
Pre–made pamphlet binders, University Products, $0.60–0.89 ea.

Productivity: 6% of total output for 1990/91; 20 minutes each; 152 completed by 2 technicians in 1990/91.

MUSIC PAM BINDS

Purpose: The music scores are commercially bound with pockets to house the pamphlet bound parts. Each part is labelled with the call number on the front for easy identification and is protected with a security sticker at the spine.

Procedure: The original sewing or staples are removed and the score is sewn into a folded piece of heavy museum board with a five–hole butterfly stitch. Loose sheets or fold–outs are guarded, glued into the margin, and then sewn through the linen guarding strip. A security sticker is placed on the back at the inner margin and covered with a 3 inch wide strip of Devon buckram. (Round off the sharp corners and write the call number on the front cover in pencil). Each completed title is tied together with string and sent to the commercial binder for a "cover with pocket" style binding.

Materials:

Heavy museum board, University Products, $1.00 ea.
18/3 linen thread, Talas, $8.10/spool.
Arrestox Devon cloth, Industrial Coating Group, $3.13/yd.

Productivity: 14% of total output for 1990/91; 15 minutes per part; 368 completed by 2 technicians in 1990/91.

REBINDS

Purpose: Volumes with torn or missing spines are fitted with a replacement spine. The boards must still be attached to the text block and the text stock must be intact. This technique is used for both old and new books as well as serials.

Procedure: 1/8 inch of covering material is cut off the boards at the shoulder. If the covering material is a heavy weight buckram, l inch of cloth is lifted off the boards so the new spine will be adhered directly onto the boards. Spine linings are cleaned with rice starch paste. A layer of heavy Japanese paper is pasted over the text block spine and onto the boards. If the covering material is thin buckram or paper, the Japanese paper is pasted over the spine and over the covering material about 1/2 inch onto the boards. Decorative headbands are glued onto the spine with PVA. A new spine piece of blotting paper is cut to the exact width of the spine and to the height of the boards. This piece is glued onto a piece of starch filled buckram l inch wider on both sides and 3/8 inches longer at the head and tail; cover this blotting paper with a strip of linen/cotton fabric for support. This entire spine piece is then rounded after drying and adhered to the book.

Materials:

Rice starch paste, Talas, $1.45/pound.
PVA, Ernest Schaefer, Cold Flexible 22 @ $12.98/gal.
Heavy blotting paper, Ocker and Trapp, $1.00 ea (24 x 40).
Linen/cotton fabric crash, Ernest Schaefer, $1.30/yd.
Starch filled buckram, Industrial Coating Group, $4.53/yd.

Productivity: 6% of total output for 1990/91; 30 minutes each; 155 completed by 2 technicians in 1990/91.

RECASES

Purpose: In–house recasing is preformed on pre–1932 fragile monographs requiring individual treatment to repair detached covers, resew a split or loose text block. The paper must pass a two–fold test; if it breaks after one fold, the book is reviewed in a brittle books searching process. Each book is treated on a one–to–one basis.

Procedure: After original covers are removed and the spine is cleaned with rice starch paste, torn pages are repaired or, when necessary replacement pages are photocopied. The first and last signatures of the text block are reinforced with a light weight Japanese paper; this protects these signatures from direct contact with PVA when adhering endsheets. Pre–made endsheets are sewn onto the text block, glued down with diluted PVA, and the text block is pressed between brass edge boards until the glue is dry. Two layers of heavy Japanese paper are pasted onto the spine and onto the endsheets about 3/8 inches. Decorative headbands are glued onto the spine. The case is constructed with a 1/8 inch square using acid free Davey Board, flexible blotting paper, and starch filled buckram. Before gluing the endsheets down onto the boards, the text block is correctly positioned in the case and a thin line of PVA is applied along the shoulder and nipped under light weight until dry; this insures a proper square. When the text block is finally cased in, it is placed in the press overnight. Original spines and cover information (when possible) are adhered the next morning.

Materials:

Rice starch paste, Talas, $1.45/pound.
PVA, Ernest Schaefer, Cold Flexible 22, $12.98/gal.
18/3 linen thread, Talas, $8.10/spool.
Conservation endpapers, Library Binding Service, $0.82–0.97 ea.

Acid free Davey Board, Ocker and Trapp, #12–18, $1.00 ea.
Acid free blotting paper, Ocker and Trapp, $1.00 ea.
Starch filled buckram, Industrial Coating Group, $4.53/yd.

Productivity: 65% of total output for 1990/91; 4 to 6 per day; 1270 completed by 2 technicians in 1990/91.

DROP SPINE BOXES

Purpose: To house special collections volumes with historical bindings and those that are too fragile to be recased. Boxes are also used for loose plates that cannot be guarded and bound. Tiered boxes are used to house multi–volume sets or items that must be kept together.

Procedure: The book/item is measured in a relaxed state and a custom box is constructed to fit according to a formula developed at NYU Bobst Library. Binder's board trays are made to fit each item in a tiered box to insure proper fit and covered with buckram. Each box is then clearly labeled on the spine with the title and call number for easy reference.

Materials:

PVA, Ernest Schaefer, Cold Flexible 22, $12.98/gal.
#12 acid free Davey board, Ocker and Trapp, $1.00 ea.
Starch–filled buckram, Industrial Coating Group, $4.53/yd.

Productivity: 1.5–3 hours per box; 106 completed by 2 technicians in 1990/91.

Northwestern University Library
Institutional Profile for Collections Conservation

Scott Kellar, Collections Conservator
Evanston, Illinois

The Preservation Department provides direct service to the Main Library and three branch libraries containing approximately 3 million volumes. The antecedent to our current repair program existed prior to the formation of our Preservation Department. When it was formed in 1985, the "mending section" was immediately put under it's direction. Money was allocated the following year for the construction of a Conservation Lab and the hiring of a collections conservator. At every stage of development, the Preservation Department has integrated the assets of its repair program into its organization. Presently the Lab has permanent funding for its collections conservator and 1.5 staff technicians, grant funding for 0.5 technicians, and recurring funds for 20 part-time work-study student assistants during the academic year, as well as 8 full-time assistants during the summer quarter. Frequently a volunteer will also contribute work for experience. There is no union for any of the above. Only the collections conservator is classified as professional.

Outside of two small Repair Units in branch locations, our collections conservation program is located in one centralized Lab. Our work-flow is intentionally managed as a single integrated program to continually examine collection needs and priorities, staff skill optimums, and treatment range and effectiveness. Rare book and paper conservation is classified as "complex treatments" and treated primarily by staff technicians and the collections conservator, though not exclusively. Certain simple repairs and enclosures are at times relegated to experienced student staff. All Lab staff work under the direction of the conservator.

Grant-driven treatment is sporadic — a small percentage of total work done. Aside from these occasions (which are sought) about 79% of the materials treated are use driven and 21% targeted by selectors. In general we allow our first priority to be directed by use (material that is receiving use and requires treatment to withstand continued use). Material arrives in the lab in a number of ways: via the Circulation Desk, the Commercial Binding Unit, the Preservation Office, directly from the collections, and from the branch libraries. Treatment specifications are ultimately made by the collections conservator, though standardized treatment specification is often discussed with or referred to other preservation staff and, when appropriate, selectors. The decision for withdrawal of any physical item is ultimately made by the selectors. This is done only in conference with the preservation staff in light of possible treatment and reformatting options, and usually occurs only after the item has been reformatted.

There is no work quota system in the Lab. Most material is repaired and returned within four weeks (average four week backlog); rush material and recalls are returned within 24 hours. Complex treatments often require more time. Work is completed between 8:30 and 5:00 Monday through Friday plus two 4 hour evening shifts (variable) which student supervisors oversee.

Training for staff is primarily done in-house, though outside opportunities are often used by the conservator and technicians. To a limited degree, library policy allows for development opportunities. As much as possible, staff members learn all the techniques used in the lab for their skill level - specialization is infrequent. Pay ranges from approximately 5 to 12 dollars an hour in the lab. The collections conservator is expected to serve the broader library community as a professional, and sits on various committees.

CURRENT TECHNIQUES

BOOK WRAPPER

The wrapper is an enclosure for small to medium size materials, 1/2 inch to 2 inches in thickness.

Materials:

0.20 Hollinger acid free folder stock.
#415 3M acrylic double-stick tape.

Approximate time: 20 minutes.
Number in FY '91: 337.
Comments: Useful for retaining low use brittle items after filming, when desired.

BOND LINER SPINE/JOINT REPAIR

This technique is used in conjunction with the spine repair of hard cover books. It is particularly useful with medium to heavy books where the inner joint is intact but of insufficient strength for the long term use of the book. The acid free bond liner is moistened and applied with PVA. The width of the liner extends down into the grooves and onto the boards.

Approximate time: 5 minutes.
Number in FY '92: Unknown; stats not kept.
Comments: Very useful in strengthening the inner joint during spine repair.

BRISTOL BINDING

A simple method of constructing a semi-rigid binding for small books without the use of a board shear or covering over boards.

Materials:

A/F cover-weight paper lightweight linen.

Approximate time: 45 – 75 minutes.
Number in FY '91: No stats.
Comments: Introduced by Hedi Kyle.

CATALOG BINDING

For material that is adhesive bound as one piece, and is of temporary value (telephone books, directories, etc.).

Materials:

Bookcloth.
Acid free 0.25 pressboard.
Hinge cloth in 1 inch strips.

Approximate time: 20 minutes.
Number in FY '91: 425.

CLOTH FLANGE

The cloth flange is a technique that is useful for reattaching boards for medium to small hard back books that are receiving a spine repair. It is also useful for brittle volumes in that it places very little stress on the front and back pages of the textblock. Board reattachment can be achieved with this method in conjunction with a full spine repair, or in the case of brittle books with low use, a simple paper spine liner then stored in an enclosure. An extended liner of linen or cotton reinforcement cloth is attached to the spine with PVA, to which the boards are adhered. A kozo strip is attached on the inside to cover the cloth and strengthen the attachment to the textblock.

Approximate time: 5 minutes.
Number In FY '91: Unknown; stats not kept.

ENCAPSULATED PAMPHLET BINDING

A simple structure possible for an experienced student to construct. Appropriate for brittle pamphlets of high artifactual value.

Materials:

3 mil polyester.
A/F cover-weight paper.
Stainless steel staples.

Approximate time: 90 – 120 minutes.
Number in FY '91: No stats.

FOLDED-BACK ENDSHEET

This technique is used in conjunction with spine repair of large or heavy hard cover books where the boards have been detached. The folded back endsheet provides: a single acid free flyleaf, a means of board attachment, and a very durable inner joint. It can be used for volumes with either one or two detached boards. It can also be used very effectively with heavy volumes where it is advisable to repair the book allowing no bottom square (flush to the bottom). The board sheet of the folio endsheet is adhered and folded back around the extended crash flange, and then onto the spine.

Approximate time: 7 minutes.
Number in FY '91: 163.
Comments: We started using this procedure in '91; stats do not accurately portray our current use (greater).

FROST PAPER CASE BINDING

This case is also capable of being constructed in a low-scale production setting. Historically accurate for many 17th – 19th century printed books, it is strong, flexible and appropriate for many small to medium size volumes.

Materials:

Barrett case paper.
A/F endpapers.

Approximate time: 45 – 75 minutes.
Number in FY '91: No stats.
Comment: Introduced by Gary Frost.

LAPPED CASE BINDING

This technique provides a simple and economical way to provide new cases for small book material of high value which does not have high aesthetic requirements. The case is made flush to the item; no covering materials are needed. The spine lining overlaps the simple single folio endsheets.

Materials:

Barrett case paper.
LBS 0.60 A/F pressboard.
Kozo.
Barrett book paper.
A/F endsheets.

Approximate time: 45 – 75 minutes.
Number in FY '91: No stats.
Comments: This technique best used in conjunction with a wrapper.

PAMPHLET BINDING

The pamphlet binding is for single section material that is wrapped with an endsheet, pierced through the fold, and sewn into the binder with a simple figure-eight stitch.

Materials:
Pre–made binders (SEMCO: Tyvek binding tape with acid free 0.25 pressboard covers, 1/Y joint).
#16 linen or cotton thread.
Acid free single–fold endsheets (LBS).
Approximate time: 12 minutes.
Number in FY '91: 283.

PAPER COVER REPAIR

Simple repair of sewn paper cover material which will receive low use but has a high artifactual value. Spine is reinforced, cover is reprinted and reattached to the textblock in a non–stressful manner. Must be used in conjunction with an enclosure.
Materials:
Japanese paper.
Starch paste.
Approximate time: 20 – 40 minutes.
Number in FY '91: No stats.

PHASE BOX

This is a versatile enclosure useful for the protective storage of fragile, loose, or brittle material.
Materials:
LBS grey/white barrier board.
Velcro.
Bookcloth.
PVA.
Stainless steel staples.
Approximate time: 40 minutes.
Number in FY '91: 147.
Comments: The design of this structure allows it to be shelved without the problem side projections.

'POCKET' BINDERS

Materials:
Hollinger 0.10 acid free stock.
Pamphlet binder (SEMCO Tyvek tape with a/f pressboard).
Tyvek tape.
Enclosure for pamphlets and material under 1/4 inch thickness.
Approximate time: 10 minutes.
Number in FY '91: 883.
Comments: Very simple to set production line construction for standard sizes.

REINFORCED COVERS (STIFFENS)

Treatment for medium to small softcover material with sewn page attachment. Inner joint is reinforced with Japanese paper after which the pressboard is attached to the inner boards. A joint space is left to allow a stress–reducing secondary joint.
Materials:
Kozo Japanese paper.
0.25 acid free pressboard.
#415 1/2 inch 3M tape.
Approximate time: 20 minutes.
Number in FY 91: 3484.

Comments: For our collections this treatment has proven to be a permanent alternative to the pre–binding of this material.

REHINGING BOARDS FOR LEATHER BOUND BOOKS

The board does not need to be fully detached for this technique; if the sewing cords are still attached to the board, do not disturb them. This technique is useful for detached boards when other problems have been dealt with in advance. The Japanese paper is adhered directly over the broken hinge, reinforced by an inner joint of Japanese paper.

Materials:

Dyed Japanese paper (Moriki).
Japanese mending paper.
PVA/methyl cellulose mix adhesive.
Klucel G (mixed in 90% isopropyl or 100% ethyl alcohol).
SC 6000 leather formula (acrylic/wax emulsion).

Approximate time: 20 minutes.
Number in FY '91: Unknown; no stats kept.
Comments: This procedure was recently introduced by Don Etherington.

SINGLE AND MULTI–SECTION SMALL PAMPHLET BINDING

This simple pamphlet wrapper works well in conjunction with an enclosure like a pocket binder. Paper can be selected to harmonize with the appropriate period.

Materials:

Acid free paper, medium weight.

Approx. time: 20 – 50 minutes.
Number In FY '91: No stats.

SIDE–SEWN ('LINE') BINDING

To temporarily bind together loose material that form incomplete volumes. After complete, material will normally be sent to the commercial binder. Holes are drilled through the side to allow the nylon line to pass through and tie the material together.

Materials:

Pre–made covers (SEMCO: binder covers with 1/2 inch tabs).
Tyvek binding tape with acid free pressboard.
40 pound test nylon filament.
Acid free endsheets.

Approximate time: 20 minutes.
Number in FY '91: 1,398.
Comments: Flexible nylon line allows limited openability.

QUARTER LIMP PAPER CASE

This simple case is made from two 'boards' cut from the case paper and then connected by the book paper. This allows for greater flexibility at the joints and the economical use of the paper for smaller early printed books and pamphlets. Best used in conjunction with a wrapper.

Materials:

Barrett case paper.
Barrett book paper.
ProMatCo 100 pound laid paper.

Approximate time: 60 – 90 minutes.
Number in FY'91: No stats.
Comments: Can also be made flush with the book edges.

SEWN BOARD QUARTER BINDING

This binding works well for medium size books that should be in a flexible binding. The sewn board attachment provides an excellent text to cover attachment and the linen spine affords good protection against wear. Best used in conjunction with an enclosure.

Materials:

0.10 Hollinger.
A/F paper.
Light-weight linen.

Approximate time: 60 – 90 minutes.
Number in FY '91: No stats.
Comments: Adapted from a model made by Hedi Kyle.

STAPLE BINDING

For material that is in single sheet format, under 1/2 inch thick, and has a suitable inner margin.

Materials:

Pre-made binders (SEMCO: binder covers with 3/8 inch tabs).
Tyvek tape with acid free pressboard.
Stainless steel staples.
Acid free endsheets.

Approximate time: 10 minutes.
Number In FY '91: 1,486.

SPINE REPAIR

This method preserves the inner joint without requiring the cut tab turn-ins that weaken the repair at a critical point.

Approximate time: 30 minutes.
Number in FY '91: 2,997.
Comments: Proper spine/joint repair reinforcement must be combined with this procedure to attain a complete repair.

Collections Conservation at Princeton University Libraries

Brian J. Baird, General Collections Conservator
Princeton, New Jersey

Princeton University Libraries (PUL) consist of Firestone Library, sixteen branch libraries, and two annexes (for off-site storage) which have combined holdings of 4.5 million books. PUL has one of the highest ratios of number of circulations to number of students in the nation with an average of over 100 circulations per student. This ratio affects PUL in two ways. First, it means a large number of items get used, and second, a high amount of retrospective research is performed meaning the older material must be maintained.

The Library has had an active book repair program for many years, but it was not until the late 1970's that true conservation and preservation programs began to develop. In the last year, the PUL reorganized its preservation efforts by establishing a Preservation Office and by hiring Robert Milevski as the preservation librarian. The Preservation Office consists of three units at this time: Collections Conservation, Brittle Books, and Arabic Preservation Project (grant-funded microfilming projects). PUL has also had a history of special collections conservation, but it was always separate from Book Repair and other preservation activities. With the recent reorganization this Unit has been pulled into the new Preservation Office. Much time and many resources have been devoted to upgrading and improving general collections conservation since the reorganization of the Preservation Office and the hiring of Brian Baird as collections conservator. The philosophy of the Collections Conservation Unit is high production, sound treatments from a conservation point of view, and aesthetically pleasing results. This has involved staff retraining, unit reorganization, and changes in treatment standards.

Last year collections conservation staff executed more than 18,000 treatments. The staff presently consist of one professional (the general collections conservator), two FTE support staff, and three students (in addition, one FTE professional level book treatment position is currently vacant). The conservation lab is being completely remodeled which involves moving the special collections conservation operation into the same area with general collections conservation, and providing more room and equipment for both. By autumn, Princeton will have hired a paper conservator for special collections and a book conservator for the general collections; and with the additional lab space, more students will also be hired. When fully staffed, the Collections Conservation Unit will consist of four FTE's (two professional and two support staff), seven students (1.5 FTE), and one or two volunteers (0.5 FTE). Thus organized, in the next fiscal year Princeton plans to double the number of items treated last year and to treble it two years from now.

All of the material in the Princeton University Libraries that is identified for treatment is sent to the Collections Conservation Unit where the collections conservator reviews it and decides upon the most appropriate treatment for every item, including whether it requires in-house or commercial treatment. Material is primarily identified through handling and recorded use (i.e., circulation). In addition, bibliographers and selectors are encouraged to work with collections conservation staff to identify heavily used subject areas in the stacks which do not normally have recorded use, but which require maintenance and treatment.

Damaged materials arrive at Collections Conservation either on a book truck or through the mail. Branch libraries are limited in what they can send by use of a point system. The point system, loosely based on the model at the Library of Congress, allocates available staff treatment hours among the libraries as well as regulates the flow of materials from them into the Unit. Most libraries are instructed to keep three to five books charged to collections conservation all the time. Limiting the number of items sent for treatment helps prevent the Unit from being buried in a back log.

Each branch library has a set number of treatment hours, or points, assigned to it. The number of points used by each library is tracked by the collections conservator. Each month the library receives a printed report stating how many points have been used, where the points have been spent, that is, what treatments have been executed, and how many points remain. The point system has a rotation system appended to it so that each branch library receives extra points every four years. These extra points can be used for special projects the bibliographers, selectors, or collections conservator may identify.

At Princeton, the conservation technicians are part of the library support staff and are represented by a union. Their salaries and position titles are negotiated with the library administration every two years, along with those of the other library support staff. They are treated no differently than other library employees having opportunities to serve on committees, and to receive professional training.

For the conservation technician, no formal conservation training is required; it is provided on the job. Each technician is trained in a variety of treatments. The higher level technician is required to know and understand all of the treatments executed in-house, but is not required to perform them on a regular basis. This person's primary duty is to perform case binding. The lower level technician is responsible for temporary bindings and enclosures and is not required to know how to do the upper level treatments. The salaries for conservation technicians range between 18 and 26 thousand dollars per year.

In collections conservation at Princeton, access to library material is an important consideration. All treatments, standards, and policies are established with access in mind. To this end, material is repaired or rebound rather than boxed when it is possible believing, generally, that a fully functional item is a more accessible and more usable than one which is boxed. Currently, we have a back log to deal with, but it will be gone by the end of the summer. In general, we attempt to turn around material sent to us on the following schedule: 24–48 hours for special rush situations; 5 days for normal rush; and 30 days for normal treatment. The majority of the treatments performed here are identical to those performed at Brigham Young University. Our standards and conservation theory are also similar.

CURRENT TECHNIQUES

CASE BINDING

The case binding structure used at Princeton was designed by Robert Espinosa. The spine is cleaned, double folio end papers are sewn onto linen tapes. The sewing in the text block is reinforced by sewing through the first and last three signatures of the text block. In a job backer, the spine is rounded to give the text block a nice shape and the spine is lined with a Japanese paper and paste lining. When the paste has dried, the spine is lined with PVA and crash. The book is allowed to remain in the job backer for two hours to give the PVA time to set. The case is made with small squares at the head and tail of the book, and the joints and spine areas of the case are reinforced with a lining of crash. The case is covered with Canapetta book cloth from Italy, and it is labeled with a laser printed, Moriki paper label. It takes 90 minutes to make a case binding and we make about 1,800 of them a year.

REBACKING

For this treatment the text block is prepared the same way as in a case binding except there are not new end papers sewn on. The case is prepared by replacing the original cloth through the spine and joints of the cover with new cloth. The original boards have a small amount of board removed to make room for the new cloth. The text block is re-attached into the case by lifting the original paste down enough to remove the old crash. The new crash is then adhered into place. The original spine label is cleaned and adhered to the new spine cloth. It takes 2 hours to perform this treatment and we do about 50 of them a year.

SPLIT BOARD

This binding is performed on large, heavy books that receive a high amount of use such as dictionaries and other reference books. The text block is prepared the same way as in case binding except there is a piece of linen in between the two end paper folios and the spine is lined with canvas or heavy linen instead of crash. A tab is then made by folding the first end paper over on top of the canvas and tapes and is adhered into place. This tab is them glued in between two boards. This is done for both sides of the book. The books is then covered with a half binding style. The linen that is in between the end paper folios is then adhered through the inner joints of the book and onto the inner boards to provide more support to the joints of the book and a paste down is applied to the inner board. It takes about 2.5 hours to perform this treatment and we do about 40 of them a year.

BOARD TACKETING

Board tacketing is used on books with bindings that have no joint area like many books from the 19th century. The board is laced back onto the book in a way that gives a strong attachment and good movement, but is fairly invisible. It takes 30–60 minutes to perform this treatment and we do about 100 of them a year.

TEMPORARY BINDING

This treatment is performed on incomplete volumes of periodicals. The temporary binding is a way of keeping the issues together, and providing support and protection for the volume so it can sit in the stacks with the other bound volumes of periodicals until the missing issues are obtained and the volume can be permanently bound. Each issue is sewn through the fold to a piece of crash, the crash is then glued to boards, and the spine is covered with a piece of cloth. The volume is labeled with a laser printed Moriki paper label. The binding incorporates sewing through the fold to insure the volume will open easily which helps prevent damage from photocopying. It takes about 15 minutes to perform this treatment and we do over 2,000 of them a year.

PHASE BOX

The phase box is our standard protective enclosure. It is used to protect and secure damaged, little used material that does warrant full treatment. It is also used to house multi-media material that come into the library with increasing regularity. The box is made of lignin-free, acid free board. A computer is used to produce the sizes the boards are to be cut and where the creases should be made. It take 10–15 minutes to perform this treatment and we do about 300 of them a year.

DROP SPINE BOX

This enclosure is designed to protect rare and valuable material. We use the Library of Congress double-walled box design. This enclosure is performed mostly for items that are in special collections or in locked case. It takes 3 hours to make a drop spine box and we make about 10 of them a year.

CASE WRAPPER

This enclosure is designed to protect small or thin items. The wrapper holds the item in place, and the case gives the item support on the shelf. This enclosure is designed to treat material that is too thin or small for a phase box. This treatment serves the purpose it was designed for, but it takes nearly twice as much time to make a case wrapper as it does to make a phase box. Also, the way the case wrapper closes is kind of fussy. It takes 30 minutes to make a case wrapper and we make about 200 of them a year.

PAMPHLET BINDING

This binding is designed to protect single signature, or thin multi–signature items. Whenever possible, we try to bind material rather than placing items in protective enclosures so this is our preferred treatment for thin items. The pamphlet is sewn through the fold employing a free guard made of heavy Uda. The item is held to the cover by its sewing and not by adhesive so the treatment is completely reversible. It takes 15–20 minutes to perform this treatment and we do about 300 of them a year.

SPINE REPAIR

This is a collections maintenance repair. It solves the often occurring problem of books with torn spine pieces. The original cloth is removed from the spine and joint areas of the book. New cloth is glued in place, and the head and tail is reinforced with cord. When possible, the original label is cleaned and adhered over the new cloth. While this treatment is both effective and efficient we are not fully satisfied with the treatment. We do not like the tabs that are glued down over the paste downs, and we are not satisfied with any of the other solutions that we have seen. It takes about 30 minutes to perform this treatment and we do about 1,000 of them a year.

Saint Bonaventure University Preservation Department: Friedsam Memorial Library

Peter Jermann, Preservation Officer
Susan Mackey Frakes, Preservation Intern
Saint Bonaventure, New York

COLLECTIONS SERVED

Circulating collection: 275,000 volumes (monographs and periodicals).
Franciscan Institute Collection: 10,000 volumes (monographs and periodicals).
Rare Book Collections: 10,000 volumes.

HISTORY

1942 – 1980	Book bindery established to bind serial titles.
1980 – 1985	Bindery evolves into a Preservation Department.
1985 – 1992	Full service Preservation Department.

ORGANIZATION

The Preservation Department answers directly to the Director of the Library. Department responsibilities extend to all library collections and include operation of the in–house bindery, commercial binding, commercial microfilming, in–house reformatting and staff preservation education.

Work flow for in–house repair and rebinding is generated by the circulation department and technical services. The circulation department traps damaged books as they are checked out or returned and routes them to the bindery. Technical services forwards all new paperbacks to the bindery for re–binding in addition to trapping damaged books and earlier paperbacks that come through the department as part of a reconversion project. Treatment decisions are made in the Preservation Department.

RESOURCES

Staff

Preservation Officer (full time).
Student technicians (20 hours/week).

Space

15 ft. x 25 ft. (office and work space).
10 ft. x 14 ft. (storage and work space).

Equipment

30 inch board shear.
19 inch manual guillotine.
15 inch glue machine.
12 inch casing press.
16 inch caging press.
15 inch pinch press.
Backing press.
Fan gluing press.
IBM compatible PC.
Printer.

IN–HOUSE TREATMENTS

Circulating materials

First time binding.
Hardback rebinding and recasing.
Paperback rebinding.
Paperback stiffening.
Pamphlet binding.

Expandable binders.
Marginal materials wrap–around boxes (20 point archival board).

Rare and unique materials

Wrap–around phase boxes (55 point gray/white archival board).
Polyester encapsulation.
Portfolios.

ANNUAL PRODUCTION

Approximately 4,000 items/year (50% paperback rebinding, 25% hardback recasing, 25% other).

TREATMENT PHILOSOPHY

Circulating collections

- The library is not a museum.
- The photocopy machine is here to stay.
- We only want to see it once.

Rare collections

- Boxes and enclosures are the only truly reversible treatments.
- If it ain't broke don't fix it, if it does need fixing it goes off–site.
- Off–site conservation only happens for a damn good reason.

Stanford University Libraries Conservation Treatment Section Profile

Eleanore Stewart, Head of Conservation Treatment
Stanford, California

SIZE OF COLLECTION

Three million volumes housed in 12 libraries.

HISTORY

When the Preservation Office was founded in 1980, it was staffed by a Preservation Officer, a conservator, and a one-person Brittle Books Unit. The Repair Unit, formerly under Binding and Finishing, was transferred to Preservation in 1981, and the Conservation Treatment Section, which unites both circulating and special collections treatment, was formed in 1988 when a supervising head conservator was hired. Binding and Finishing (formerly under Acquisitions) was transferred to Preservation in 1989. The Preservation Office became a Department in 1989 and is part of the Technical Services Division.

STAFF

Within the Conservation Treatment Section there are 4 technicians for the circulating collections and two conservators (totalling 1 full time equivalent in bench time) for the special collections. Although the work areas are separate (the special collections area is secured), the areas adjoin and equipment is shared. My long-term goal is to have 3 FTE on circulating collections and 2 for special collection materials (in addition to Special Collections proper, there are three "locked stack" collections in the branch libraries). Conservation Treatment is centralized and there is no sanctioned repair outside the Unit. We are physically separated from Binding and Finishing, (this includes end processing where labeling and titling take place), and Replacement and Reformatting — a circumstance that inhibits streamlining and collaboration.

There is only one shift, and we have no students or volunteers (in circulating repair). There are two level I and two level II technicians. The degree of experience required distinguishes the two levels, but as time goes by, there is little distinction in the type of treatments performed - everyone does everything. Because the technicians are bargaining unit employees we have fairly restrictive job descriptions; technically, levels I and II do not work on Special Collections materials. To increase skills, introduce variety to the job, and get more attention for the Special Collections, the technicians work on housing projects for rare materials. Salary levels range from $11 to $13 an hour. The technicians received their training through a series of in-house workshops and binding lessons. Staff training is funded up to $140 per quarter and there are limited travel/professional development funds for non-exempt positions. The technicians currently serve on no library committees, principally, I think, due to lack of interest.

SELECTION FOR TREATMENT

Both Repair and Special Collections Conservation are primarily driven by use and new acquisitions. Incoming materials are identified at the end of processing in Technical Services; older collections are caught during use. We have a database of curator-identified collections with long-term preservation potential. These are used to identify projects for grant funding or to supplement the regular work flow during quiet periods. There is no item-level review by curators except for Special Collection materials.

Identification of retrospective collection materials needing preservation is done locally at each branch. Because the Preservation Department is physically segregated, it is impractical to have central review. This requires keeping a lot of staff trained to recognize

problems and select the correct treatment. Preservation staff catch mis-specifications and route them.

SPECIFICATIONS FOR TREATMENT

The circulating collections at Stanford University Libraries are not heavily used in comparison to many other institutions; faculty and students number around 16,000. This allows us to preserve many items in their original formats. Unless a book's cover is really in bad shape, we will most often reuse it. Librarians and curators are provided with a matrix showing costs/benefits of commercial versus in-house treatment which gives them general guidelines for specifications. We recently added a place on our treatment form for the sending unit to note the potential use of the item. The choices are: high-use, long-term retention, or limited retention. The default is long-term, moderate use. We hope that this portion of the form will be used and that it will allow repair staff to further gauge their repairs.

Librarians are also given a decision-making tree to follow to determine whether something should be sent out or bound in-house. The guiding principle for in-house treatment is to select "artifactually" interesting books, books which are inappropriate for our commercial binder, or books which can be repaired for less than commercial costs (including shipping). We use the guidelines for artifactual interest in "The Book as Object" found in Research Libraries Group's *Preservation Manual*.

BUDGET

Almost all physical treatment is funded by the library operating budget and is use-driven, although our most recent National Endowment for the Humanities grant does include repair. There is a Conservation Endowment which provides some funds for treating special collections materials.

PAMPHLET BINDING

Most pamphlets are sent to the commercial binder for sewing or stapling. Pamphlets in poor condition or which don't fit the size requirements for the commercial binder are bound in-house. We use LBS binders; pamphlets are stapled in unless paper is weak, in which case they are sewn.

QUOTA SYSTEM

Circulating repair runs on a quota system set up in 1987 to deal with a multi-month backlog. It is still in place but is highly flexible. Librarians just call us if they're doing a project and we adjust their quota. Turnaround time is less than a month, there are no backlogs, and rush requests are processed within 24 hours. The quota allotments were based on historical use of repair services. Although I've considered adjusting them to reflect size and use of the collection, it hasn't seemed worth the effort. Currently the main library has an allotment totalling 50% of the total.

PHILOSOPHY

We adhere to no one school. I suppose, ideally, we'd say we strive to preserve the original whenever possible, to perform effective, non-damaging repairs, and to maintain a flexible and creative attitude to our work. In reality . . .

CURRENT TECHNIQUES

RECASE, ORIGINAL CASE

Assumption: Endpaper and mull split, textblock and case sound. The model represents the treatment of a large book—where the endpapers would be sewn on. The decision to add new endpapers is predicated on: absence of important information (illustrated, signatures, plates, etc.), and the presence of chemical or physical problems with the extent endpaper.

A double folio endpaper with supplied linen hinge is sewn to the textblock (if the book is small, the new endpaper would be tipped on with PVA if paper good, guarded on with paste if paper brittle).

* Preparation of textblock: if old linings are in good condition, well–adhered, and not causing visible mechanical or chemical damage, they are left in place and new mull is attached with PVA. If not, old linings are removed with a poultice, Japanese paper lining is applied with paste, mull and subsequent linings are attached with PVA (and sometimes reinforced with sewing if new endpapers are not attached).

Time: 45 minutes.

Approximate number: Fewer than 10% of all repairs fall in this category.

Comments: Time will vary depending on how much time is needed to clean the spine. This treatment also merges with reback, if the mull is very weak, then the case is removed, remade, and reattached.

NEW CASE

Assumption: Case is off and in poor repair; imprint date or condition of paper triggers in–house recase rather than commercial recase.

Model: Supposes small book with fragile paper, pre–1900 imprint, linings in poor condition. The spine is cleaned with a poultice and lined with Japanese paper and paste. This spine lining continues over the shoulder and is used to guard on new endpapers. Linen mull and any subsequent linings are attached with PVA. New case is constructed and cased in.

Time: 1 hour.

Approximate number produced annually: Less than 1%.

Comments: This type of treatment is rare; often the book will be phase boxed. Titling is supplied by hand with electric lettering stylus and white heat–transfer tape. We hope to get equipment to produce computer labels.

REBACK

Assumption: Outer spine fabric tom, mull sound.

Model: The model represents a book which justifies lifting the cloth to insert new spine material. Typically this is done with illustrated, stamped, or unusually textured covers. Otherwise the new spine cloth is laid over the boards producing a quarter cloth effect. A new spine liner is made from archival card stock, polyester ribbon is glued at turn–ins, adhesive is PVA.

The model also demonstrates two different repairs for split endpapers (still assuming the mull is intact). On the front board the endpaper is lifted, the free fly is removed, and a piece of Japanese paper is adhered with PVA along the backing shoulder and on to the board. The pastedown and free fly are then re–adhered. This would be done if the endpapers were illustrated or aesthetically interesting. On the back board the same procedure is followed except the pastedown is not lifted and Permalife paper has been used. Sometimes C grade binding cloth is used for darker or marbled endpapers.

Time:

Reback: 2–30 minutes.

Unlifted endpaper mend: 5 minutes.

Lifted endpaper mend: add 5 minutes.

Approximate number produced annually: 80–90% of our repairs are in this category.

Comments: If mull is weak then it's cut and becomes recase, original boards.

PHASE BOX

Phase boxes are used to house materials which are not currently going to be repaired. Perhaps the treatment would be too time consuming for a little–used item, or the item can't be repaired (for example old serial issues which have no inner margin and many loose leaves), or

the paper is becoming brittle. We also use phase boxes to house brittle materials while they await funding for filming. If the textblock is distorted a creased form can be added to create an evenly rectangular box.

Time: 10 minutes (exclusive of lettering—this is done in another department).

Approximate number produced annually: 3,200.

Comments: We do not have problems with boxes becoming separated from the book. We have only had problems with the Velcro coins delaminating the board for a brief period of time. The problem has been eliminated through the use of "halved" coins. We rely on the pressure sensitive adhesive supplied on the coins.

CLOTH COVERED PHASE BOX

This is used to provide extra protection for fragile materials which will be kept in their original bindings and allowed to circulate.

The construction is like a phase box, but the outer piece is five separate pieces (i.e., no board in joint area) covered in cloth, approximately 1/2 yard. This adds about $1.50 in materials.

Time: 25 minutes.

Approximate number produced annually: 50.

Comments: This is a new product for us, we've used it for about a year. Ultimately we will include a label inside the box which explains that the enclosed item is fragile and historically of interest.

PAMPHLETS

Most pamphlets are sent to the commercial binder for sewing or stapling. Pamphlets in poor condition or which don't fit size requirements for commercial binder are pam bound in-house. Pams are stapled in with stainless steel wire stitcher unless paper is weak, then they are sewn in.

Time: 10 minutes.

Approximate number produced annually: 1500.

Comments: We switched to LBS binders after trying to have archival pamphlets custom made through a commercial "archival" vendor (it took too much management time to insure order was correct and materials used were archival).

MUSIC SCORES WITH PARTS

Music scores with parts are bound in-house. Scores are sewn or stapled in and the parts are inserted in Tyvek envelope.

Time: 10 minutes.

Approximate number produced annually: 120.

University of Cincinnati: University Libraries Preservation Program

Toby Heidtmann, Preservation Librarian
Cincinnati, Ohio

The University of Cincinnati (UC) has been state supported since the mid–1970's. The libraries are administratively organized as University Libraries, the medical libraries (Health Sciences Library, Nursing & Health Library, Cincinnati Medical Heritage Center), the Law library, and libraries on each of the two branch (2 year) campuses. There are more than 36,000 students enrolled. There Are about 1.75 million volumes in all the libraries.

University Libraries serves the College of Arts & Sciences, and the several professional colleges (College–Conservatory of Music, Engineering, Design, Art, Architecture & Planning (DAAP), and Education). In addition to the main library (Langsam Library), there are 10 branch libraries. The libraries of University Libraries hold about 1.4 million volumes.

UC was awarded a NEH grant in the late 1970's and those funds were used to create an endowment for development of the humanities collections and conservation. Currently, the Conservation Unit is partially funded from this endowment's annual income.

The repair program for University Libraries is centered in the Conservation Unit headed by Virginia Wisniewski. It is a Unit within the Collection Management Department; the department also includes the binding preparation, end processing, storage management, gifts and replacement programs. The total staff is 12.5 FTE staff and about 2.4 FTE student assistants.

There is one UC conservation facility, but the Law library and the Cincinnati Medical Heritage Center perform limited repair and re–housing operations. The largest portion of the work comes from the main and branch libraries as the result of circulation. Also, a significant amount of work done in conservation is newly catalogued materials (pamphlets, music scores, and items earmarked by selectors). Our primary focus is general collections, but we do limited work on special collections materials as well.

The Conservation Unit includes 3 full–time positions; the Conservator and head of the Unit, a Library Conservation Technician (LMTA2), and a student supervisor, who is also responsible for evaluation of incoming materials (Library Associate 2). We also employ about 1.2 FTE in student labor. Our classified staff is unionized. There are 5 levels in the classified system. Library Associate 2 being the highest. The conservator position is an unclassified (non–union) position.

The Book Repair Program at the University of Michigan Library: An Institutional Profile

Annette Christian, Ann Ridout, and Len Muir, Bookbinders
Ann Arbor, Michigan

Our Unit serves the Graduate Library, Undergraduate Library, and eighteen divisional libraries housed at various locations on three campuses in Ann Arbor.

In the early 1960's Book Repair was part of Bindery Preparations — a Unit that primarily prepared books for the commercial bindery. Our section repaired or rebound what was rejected for commercial binding. Our job was to make the books look as much like a commercially bound book as possible – we even used the same book cloth! At that time our work was mostly making new cases and we bound about 400 books a month. We were classified as clerks mainly because the University did not know how to classify us or the work we did. In 1976 the AFCSME Union discovered us and we were made a union shop; wages increased and new classifications were developed.

In 1981 Margaret Byrnes was given the task of forming a preservation department. She went to Yale to learn the basics of preservation. In 1982 Book Repair was separated from Bindery Preparations. We moved to a new location with more space and Martha Little was hired as the head of the "new" Conservation and Book Repair Unit which consisted of Ann, Annette, and Martha.

Martha not only had the task of "re-educating" us in conservation procedures and applications of treatment but she also designed the new lab from the floor up. We had weekly classes on different binding styles and methods and began using archival quality materials. As this happened and with new equipment coming in steadily we thought we had died and gone to Heaven!

Martha (actually the three of us) interviewed and chose Maria Grandinette as the new conservator in August of 1984. By that time, we were doing many kinds of treatments and our treatment emphasis shifted away from our traditional recase (i.e., new case binding). Decisions about changing techniques or developing new techniques were almost always made in "brainstorming" sessions which were attended by all. Once a consensus was reached on something, it usually became policy. This is still the case today.

In the spring of 1985 Len Muir was hired as a bookbinder and Julia Miller was hired as a conservator; that gave us three full-time book repair staff and two full-time conservation staff. Students have worked with us since the early eighties. They work approximately 40 hours a week. In 1986 Martha left the Library for Santa Fe and Maria eventually was selected and hired officially as head of the Unit. Ursula Freimarck joined us as a volunteer in 1986. Ursula works two days a week and she specializes in "pad binds" and sew-in pamphlets. Leyla Lau Lamb was hired in conservation in 1991. That's all of us now.

In February 1989 the Unit moved once again into a new and even larger area. The new lab was planned and designed by all under the direction and guidance of Maria. The lab is not located in a library. It is about one mile from central campus.

Book Repair and Conservation activities are well integrated. We share the same space and use most of the same materials and equipment. We are supervised by the same person and our budget for materials, equipment, and student hours is also shared. Other areas of overlap and collaboration include: sharing ideas for special treatment problems or projects, working as a team in time of disaster, making decisions about changes in how the lab functions and is organized, making decisions for ordering materials, tools and equipment, sharing responsibilities for routine equipment maintenance, participating in staff and user education, and participating in tours.

For practical purposes, the bookbinders' workstations are arranged in one area of the lab to accommodate our work more easily. The same is true for the conservators' workstations. For

example, our workstations are closer to the processing and receiving area which is better for our work-flow. However, everything generally is shared and used by all.

Work is identified for treatment by staff at the libraries. They usually decide on and send work to one of the Units of the Preservation Division: the Brittle Books Replacement Unit, Bindery Preparations and Microfilming Units, or the Conservation and Book Repair Unit. Staff are assisted in decision making by using established criteria. New staff members are invited to Book Repair for orientation sessions. Most work is selected for treatment when damage is discovered as the book is used. The Book Repair Unit has been involved in two grant projects but most of our work is not grant funded.

Once work is selected it is placed in a tote and sent to our Unit. The Library has its own central mail service with pick up and delivery two times a day to Book Repair. Each piece (except pamphlets) is accompanied by a book repair form. The form asks for basic bibliographic information and a choice of treatment. One of the most popular treatment choices made by staff is "perform appropriate treatment." Annette reviews the materials when they arrive. (While any Book Repair staff member could make the proper treatment decision, for the sake of expediency, it's better for one person to do so in most cases). She makes all the final treatment decisions unless she feels unsure about something and then other members of the Unit are consulted for a solution. Most 19th century materials are reviewed by Annette and Maria. In other special cases, for instance, the treatment of a collection of odd sized pieces of contemporary mail art, Maria would consult with the staff member who will perform the treatment.

After the treatment decision is made the item is shelved by specific treatment on appropriately labelled and dated shelves in the Processing and Receiving Room. The number of items requiring each treatment is recorded on a chart. At weekly staff meetings we assess what needs to be done in order to maintain a one month turn-around time and we assign the work accordingly.

Our Repair Unit has developed a work-time-study plan this year which allows us to assign work to each binder knowing how long each treatment should take and how many can be completed in an allotted time. For example, recases and reattach cases are combined and worked on in groups of 30; each step has been timed so we can tell how long it will take to complete the entire process. The group of 30 books is worked on over a two week period. It takes 22 hours to complete the first phase (checking-in to completing the endsheet attachment) and 32 hours to complete the second phase (cutting board to final inspection). By studying and acknowledging what we actually do in our work days besides binding we know how much bench time we have and how much work can be assigned. For instance, if when we look to the week ahead we have a big clean-up or meetings to attend, or a student to train, or shelves to stock, we adjust our bench time.

We have a separate room off the lab for pamphlet binding and a part-time student (20 hours a week) who does nearly all of it. We bind 700 to 1,000 pieces per month. Our approach to pamphlet binding is governed predominantly by thickness and margin – monographs 1/4 inch or less and serials 3/8 inch or less with at least a 3/8 inch margin are staple bound in-house. We use ready-made binders from the Library Binding Service. We also use ready-made Tyvek pockets for music or other pieces requiring pockets. Most pamphlets are staple bound. A small number of old and fragile or new and beautiful (or new and fragile and old and beautiful) pamphlets are bound by hand.

We use a time quota as opposed to a number quota. We strive to maintain a one month turn-around time for most items. We do handle "rush" pieces with a shorter turn-around time (1 day – 2 weeks, depending on the urgency) and we give reference and reserve pieces priority because they are heavily used. Backlog is handled through a close watch of work as it comes in. When a backlog begins to form the library is notified immediately. We work with the library to readjust the work-flow; a schedule is set up to do small amounts over a reasonable period of time.

The Labelling Unit is a separate Unit that is not a part of the Preservation Division. After they're repaired, items requiring call numbers are sent to the Labelling Unit.

How do we decide what part "of the package" to keep and what part to discard? When we look for candidates for rebinding they are first placed into two groups – those books that have their hinges intact and boards strongly attached and those with a broken hinge or hinges. Books that have strong hinges are given a simple spine repair. Books with broken hinges are recased. If the original case is in good condition we use that case. A new case is made when all or part of the original case is missing or damaged. When the joints and hinges are broken we prefer to make a new case rather than repair the case. This decision stems partly from tradition and has developed into our "aesthetic." Of course, there are exceptions to this policy, for example, we would not treat a 19th century cloth stamped binding that way, or rigid paper bindings with unique illustrations. But generally, we can say that we tend to recase rather than repair damaged cases. We may incorporate some of the original binding into the new case, for instance, by pasting the original spine onto the spine of the new case. Information on the endsheets and pastedowns is usually photocopied and hinged into the volume. Bookplates are removed and placed in the new case. Endbands, when they are in good condition are retained.

Everyone can do everything among full-time Book Repair staff, but for the sake of expediency, the work is divided up with the three of us specializing in particular jobs. With Book Repair being unionized we are in job classifications of Bookbinder I, II, and III. We all have been upgraded as our experience, knowledge, and skills have increased. Ann and Annette are BBIII's and Len is a BBII. Our training has been "on the job."

Professional development opportunities are not only available but encouraged for all. We all have attended various bookbinding workshops and lectures held locally. We have also attended the American Institute for Conservation annual meeting and the Guild of Book Workers Standards Seminars. Ann and Annette have given workshops in basic book repair for the Michigan Library Association and the White Pine Library Cooperative in Saginaw, Michigan. All staff attend many library functions. Ann serves on the Library's Diversity Committee.

Although many new techniques have been introduced into our Unit, we feel that a very big influence on Book Repair was Victoria Rataj. Mrs. Rataj supervised and was the driving force behind Book Repair for 20 years. She was a self-taught bookbinder and although many of her original structures have been improved upon her basic idea remains. Mrs Rataj taught us that performing a technique well included developing the ability to perform it in a given period of time, and, knowing how long a procedure took would assist you in scheduling work. This is what we are doing today. When the Preservation Division was formed the style of our work changed in response to the teachers who trained our first conservators, Martha Little and Maria Grandinette. The methods they learned from Laura S. Young, Jane Greenfield, Jeri Davis, Hedi Kyle, and Gary Frost, as well as their overall philosophy about conservation and book repair became the standards for all of us. This trend continues through what we learn from discussions and meetings with our colleagues, attendance at workshops, and through the conservation literature. We absorb and adapt.

CURRENT TECHNIQUES

SEW-IN PAMPHLET — SINGLE SIGNATURE

Most single signature pamphlets are staple bound into LBS binders. When the paper is too weak for stapling or when the item is inappropriate for staple binding (i.e., limited edition, an older pamphlet or items which we feel would be more attractive in a handmade enclosure) we make a pamphlet. The paper must be strong enough to carry the sewing, it cannot be brittle. A handmade pamphlet binder is constructed; the pamphlet is sewn onto a folded cloth strip and attached via this strip to the pamphlet binder. A 50/50 mixture of PVA and methyl cellulose is used to construct the binder and to attach the pamphlet hinge to the binder.

Cost: $0.75.
Materials:
Pressboard.
Cloth.
Sewing thread.
Time: 20 minutes.
Number completed in 1990–1991: 449 (Total for all three sew–in pamphlet types).

SEW–IN PAMPHLET — MULTIPLE SIGNATURE

This technique is used on pamphlets made up of multiple sewn signatures which have paper which is strong enough to carry sewing. The pamphlet is attached to a cloth hinge piece by sewing through the first, middle and last signatures and inserted into a hand constructed binder. A 50/50 mixture of PVA and methyl cellulose is used to construct the binder and to attach the pamphlet hinge to the binder.
Cost: $0.75.
Materials:
Pressboard.
Cloth.
Sewing thread.
Time: 30 minutes.
Number completed in 1990–1991: 449 (Total for all three sew–in pamphlet types).

SEW–IN PAMPHLET — SIDE SEWN

Most side sewn pamphlets are staple bound into LBS binders. When the paper is too weak for stapling or when the item is inappropriate for staple binding (i.e., limited edition, an older pamphlet or items which we feel would be more attractive in a handmade enclosure) we make a pamphlet. The paper must be strong enough to carry the sewing; it cannot be brittle and must have at least a 5/8 inch inner margin. This technique is used on pieces that are side–sewn or stapled. A handmade pamphlet binder is constructed using 60 point board and book cloth. A 50/50 mixture of PVA and methyl cellulose is used to construct the binder and to attach the pamphlet hinge to the binder.
Cost: $0.75.
Materials:
60 point board.
Book cloth.
Sewing thread.
Time: 25 minutes.
Number completed in 1990–1991: 449 (Total for all three sew–in pamphlet types).

STAPLE BINDING

A very quick treatment for items (1/4 inch or less) which are too thin for commercial binding; they must have ample margins (3/8 inch or more) and have sound paper. Side– or saddle–stapling using steel wire; the items are stapled into LBS binders.
Cost: $1.76 to $4.40.
Materials:
Staple wire.
LBS binders.
Time: 5 minutes.
Number completed in 1990–1991: 8,152.
Comments: The great majority of our pamphlets are bound this way.

POCKETS

Used to house items which must be kept with a particular book; also used in conjunction with LBS binders for materials such as music scores which often have loose sections. Tyvek pockets of standard sizes are purchased and cut to size for individual items; pockets are made in-house to size for large items. We use straight PVA to attach pockets to the binders.

Cost: $0.45.

Materials:

Tyvek.

PVA.

Time: 5 minutes for a commercially made envelope; up to 20 minutes to make one in-house if there is a thickness modification included.

Number completed in 1990–1991: 921.

PAD BINDING

This technique is used to bind soft cover books that are intact and in good condition and that have an insufficient margin for staple or commercial binding. This technique is also used for soft cover books that are used for a limited time only. The pad binding uses a single folio endsheet, tipped on. The spine is lined with muslin. The case is constructed using pressboard and a cloth spine piece with a bristol lining; it has a joint. The linings and other construction are adhered with 50/50 mix of PVA and methyl cellulose.

Cost: $0.75.

Materials:

Endsheet paper.

Muslin.

Bristol.

Pressboard.

Cloth.

Time: 30 minutes.

Number completed in 1990–1991: 196.

This technique works satisfactorily.

SPINE REPAIR

This technique is appropriate for books with flapping, torn or missing spines. The hinge area must be intact and the textblock sound. This technique eliminates the need for recasing. A new spine piece is constructed to the dimensions of the volume using book cloth and bristol. This piece is attached to the original boards replacing the old spine and broken pints. Adhesion with 50/50 mix of PVA and methyl cellulose.

Cost: $0.20.

Materials:

Book cloth.

Bristol.

Time: 20–30 minutes.

Number completed in 1990–1991: 133.

Comments: Satisfactory; it has held up well in our library system.

REATTACH CASE

This technique is used when the hinge is broken or damaged but the original case is still in good condition. A lightweight cloth hinge around a single folio endsheet is attached to the text with a Japanese paper hinge. The volume is cased into its original case. The paste-down is a separate, rather than conjugate, sheet. Adhesion with 50/50 mix of PVA and methyl cellulose.

Cost: $1.00.
Materials:
Japanese paper.
Muslin.
Lightweight book cloth.
Endsheet paper.
Time: 45 to 60 minutes.
Number completed in 1990–1991: 254.

RECASE

Recase is the in–house term for making a new case. A new case is made for a book when the original case is unusable due to damage or loss. In most circumstances when both the joints and hinges are broken we prefer to make a new case rather than repair the case. A cloth hinge around a single folio endsheet is attached to the text with a Japanese paper hinge. The spine is lined with muslin. A case is made with binder's board, buckram book cloth and a bristol spine insert. The paste–down is a separate, rather than conjugate, paste–down. If the original spine is intact, it is attached to the new case. If not, a paper label is made using a Macintosh computer and a laser printer. Adhesion with 50/50 mix of PVA and methyl cellulose for spine lining, case construction and paste–downs.

Cost: $3.00.
Materials:
Japanese paper.
Muslin.
Endsheet paper.
Lightweight book cloth.
Binder's board.
Buckram book cloth.
Bristol paper.
Strathmore charcoal paper for label.
Time: 60–75 minutes.
Number completed in 1990–1991: 400.

LAPPED CASE

We use this construction primarily for 19th century books. The sewing should be sound and the paper in good condition. Spine lining is Japanese paper (Paper Nao K63) pounded in and Barrett B4G; a single folio endsheet with a linen hinge is sewn onto linen tapes; the paste–down is a separate, rather than conjugate, sheet. Pre–cooked wheat paste is used to clean spines. Zin Shofu is used for mends and for attaching the K63 spine lining and the inner hinge; 50/50 mix of PVA and methyl cellulose for adhering the other spine linings and the paste–down. The case is constructed using straight PVA to attach the Tyvek bonnet, and 50/50 mix for the cloth covering.

Cost: $3.75 to $4.00.
Materials:
Japanese paper.
Barrett B4G paper.
Endsheet paper.
Linen (a linen lining is also used when appropriate).
Linen tapes.
Binder's board.
Book cloth.
Sewing thread.

Time: 4 hours.
Number completed in 1990–1991: 43.
Comments: This binding is most gratifying. It is pleasing to the eye, a very solid binding, and suits 19th century books with sound paper.

WRAPAROUND

This enclosure is used primarily to hold books which are vulnerable to damage or not otherwise treatable (i.e., brittle, inappropriate to do so) or are being enclosed against the time when they can be treated. Two pieces of 60 point lig–free board are attached at right angles and fastened at the fore–edge with cord around riveted washers. It is custom fitted to the item it encloses. Straight PVA is used for adhering the two boards together and the cord between the boards. The wraparound is placed briefly in a heat press.
Cost: $1.75.
Materials:
Lig–free board.
Cord.
Rivets.
Washers.
Time: 30 minutes.
Number completed in 1990–1991: 628.
Comments: We used to employ "velcoins" as the closure for our wraparounds but found them unsatisfactory; we have found the use of cord and rivets much more durable.

TWO–PART WRAP/POCKET BINDER

The two–part wrap is used to house thin items (i.e., loose single sheets, thin pamphlets) that cannot be pamphlet bound for structural reasons or because it is inappropriate to do so. Items that are too thin (less than 1/4 inch) for a three–part wrap are placed in a two–part wrap. A Tyvek or paper pocket adhered to a handmade or LBS binder holds the item.
Cost of binder constructed in–house with Tyvek pocket: $0.90.
Cost of LBS binder with Tyvek pocket: $3.55.
Materials:
60 point board.
Book cloth.
Tyvek or paper pocket.
Time: 5–10 minutes.
Number completed in 1990–1991: 100.

THREE–PART WRAP

Pieces that need to be placed in a protective enclosure and that are too thin for a wraparound (less than 1/2 inch but sometimes up to an inch) and too thick for a two–part wrap (greater than 1/4 inch) are placed in a three–part wrap. A Tyvek wrapper is constructed to fit the item. The wrapper is adhered to a structure that consists of three pieces of 60 point board hinged together with book cloth using two 60 point spines.
Cost: $1.00.
Materials:
60 point board.
Book cloth.
Tyvek.
Time: 30 minutes.
Number completed in 1990–1991: 166.

Comments: This structure is a good enclosure for small, lightweight books.

ENCAPSULATION

This technique is used on single pages or maps that need protection. Two pieces of mylar are sewn together with fishing line using a zig–zag stitch. When there is no information on the back of the item, an alkaline paper is laid in with the item.

Cost: $1.20.

Materials:

Mylar.
Fishing line.
Alkaline paper.

Time: 5–30 minutes.

Number completed in 1990–1991: 14.

Comments: We have recently acquired two heat welders and are switching to welded encapsulations.

SPIRAL BINDING

This technique, developed for use with plastic spirals, adds strength and durability to a spiral–bound item, still allowing the item to lie flat. Three or more rings are removed from the spiral. Tyvek strips are threaded through the spiral and adhered between the original cover, the reinforcing board and a paste–down sheet. Straight PVA is used with the Tyvek; 50/50 mix of PVA and methyl cellulose for other adhesion.

Cost: $0.80.

Materials:

Paper.
Pressboard.
Tyvek.

Time: 20 minutes.

Number completed in 1990–1991: 73.

Comments: This structure has held up well; reinforcing the spiral binding is a preventative measure that prolongs the life of the item. The Music Library 'loves' this structure for scores that are spiral bound because they will lie flat after this treatment and can withstand heavy use.

POST BINDING

This structure is ideal for groupings of single sheet too large or too thick to be commercially bound. Usually these are heavily used items which are breaking down from weight, use or poor binding. They must have a large inner margin, at least 5/8 inches wide. A case is constructed, endsheets are added, holes are drilled, and the text is joined to the case using screw posts. 50/50 mix of PVA and methyl cellulose is used for the cover construction.

Cost: $1.75.

Materials:

Binder's board.
Book cloth.
Endsheet paper.

Time: 30 minutes.

Number completed in 1990–1991: 27.

Comments: This technique is ideally suited for very specific items. If the criteria for this binding are met, it proves to be very durable. Drawbacks are that the volume does not open well and that it usually will not lie open.

SPLIT–BOARD BINDING — USING ORIGINAL CASE

This structure is used on large, heavy books over 2 inches thick where the original case is in very good condition. The joint from the original case must be large enough to accommodate an increase in bulk in the shoulder; the original boards must be thick enough to be able to be split. We cannot send books over 2 inches thick to the commercial binder. This structure uses double folio endsheets; the first flyleaf is folded back, glued and trimmed to create a tab. The turn–ins of the original case are unfolded and the board of the original case is split. The flyleaf tab is inserted into the split boards to form the text–to–board attachment. We also use a Tyvek bonnet; the bonnet is formed as for a lapped case binding and the tabs of the bonnet are inserted between the split boards along with the flyleaf tab. Spine linings are Japanese paper (Paper Nao K62) pounded in, airplane linen and a layer of Barrett B4G. Pre–cooked wheat paste is used to remove old glue from the spine; Zin Shofu is used to adhere the K62; a 50/50 mix of PVA and methyl cellulose is used to adhere the linen, and Barrett B4G. Straight PVA is used to adhere the tabs of the Tyvek bonnet into the split board.

Cost: $3.50.

Endsheet paper.
Tyvek.
Japanese paper.
Airplane linen.
Barrett B4G paper.

Time: 4.5 hours.

Number completed in 1990–1991: 63 (Total for both types of split–board bindings).

Comments: This technique works very well when the original case is in good condition; it reduces the time of the treatment by two hours. Also if the volume is part of a set this treatment preserves the appearance of the set.

SPLIT–BOARD BINDING

This structure is used on large, heavy books over 2 inches thick where the original case is not in good condition. We cannot send books over 2 inches thick to the commercial binder. This structure uses double folio endsheet; the first flyleaf is folded back, glued and trimmed to create a tab which is inserted into split boards to form the text–to–board attachment. We also use a Tyvek bonnet; the bonnet is formed as for a lapped case binding and the tabs of the bonnet are inserted between the split boards along with the endsheet tab. Spine linings are Japanese paper (Paper Nao K62) pounded in, airplane linen and a layer of Barrett B4G. Pre–cooked wheat paste is used to remove old glue from the spine; Zin Shofu is used to adhere the K62; a 50/50 mix of PVA and methyl cellulose is used to adhere the linen, Barrett B4G and to attach the boards and cover cloth. Straight PVA is used to adhere the tabs of the Tyvek bonnet into the split board.

Cost: $5.00.

Endsheet paper.
Binder's board.
Tyvek.
Japanese paper.
Airplane linen.
Barrett B4G paper.
Book cloth.

Time: 6.5 hours.

Number completed in 1990–1991: 63 (total for both types of split–board binding)

Comments: This technique has proven most satisfactory because of its sturdy construction. Many of the heavy books so treated are from our reference collections and receive a lot

of use. Large and heavy books from the same collections which have been originally case bound or commercially rebound do not hold up as well as our in-house split board.

Circulating Materials Treatment at University of Washington Libraries

Kathryn Leonard, Library Materials Conservation Supervisor
Seattle, Washington

INSTITUTIONAL PROFILE

The University of Washington Libraries serve as the major research library within the Pacific Northwest region. The collection includes five million cataloged volumes and several million microfilms and other formats. The library system consists of the main collection in the Suzzallo and Allen Libraries, plus twenty-three specialized branch libraries located throughout the main and branch campuses. Book repair for the system is administered and performed from one central location in the main library.

The Libraries' binding and repair unit, called the Mendery, was established in the 1920's. Within numerous administrative configurations, its staff has held responsibility for the in-house repair and hand binding of collection materials. Throughout the early decades, the department provided a major portion of the library's case binding for monographs and serials, enclosures, and an extensive amount of repair. For roughly fifty years an on-campus bindery served the Libraries as its main client. During this time the Mendery's supplies were specified and provided by the bindery, while the Mendery staff provided some hand-sewing and preparation for materials being commercially bound.

A series of institutional events in the mid-1970's began the evolution of the current philosophy and practice of the department. First was a gradual development of an artifactual regard for rare materials, and withdrawal of those items from an indiscriminate line of repair and binding. This was mainly instigated by a few librarians who recognized the dangers of inappropriate treatment. Next came the hiring of the first repair technician who had outside training, in the form of an intensive internship. This brought the philosophy of archival materials, reversible treatments, and mechanics of book structure to the central focus of the repair staff, and slowly throughout the institution. It also nurtured recognition for the need for specific training in the field. In 1982-3, two NEH-funded projects provided temporary conservation technician positions, amended the facilities, and increased institutional awareness of preservation. By 1984 the Mendery was placed administratively within the Special Collections and Preservation Division, initiating a long-term plan to develop a multi-faceted preservation program.

The Mendery is in a transitional period as institutional priority places renewed emphasis on preservation, and as the field of collections conservation assumes a more prominent identity. The focus of the repair program is treatment of fragile materials, pamphlet binding, and housings for materials of many formats. The work is approximately 60% use driven (selected and routed from point of circulation), 30% preventive for new acquisitions to the collections (selected and routed when cataloged), and 10% items which are structurally or artifactually "exceptional" (selected and routed by librarians from the collection). Items are routed to Mendery via two systems. More than half come through Binding Processes, the department which provides selection and technical processing for the Libraries' commercial binding. Binding Processes staff refer to Mendery materials that can be repaired quickly rather then be rebound, brittle books to be prepared for binding, and items needing enclosures. Six of the branch libraries send their repairs directly to Mendery because the treatments needed are easily and consistently identified as those performed by Mendery staff. In addition, all pamphlet binding is routed directly to Mendery, and executed by student staff.

The issue of treatment decision making is related more to experience than policy. In practice, treatment selection for materials sent to Mendery is often made by the technician performing the work. The department supervisor is responsible for standard treatment specifications, but a consultative/collaborative approach is taken by all the conservation technicians in day to day problem solving. Questions which arise regarding an item's priority

within the collection, or requirements for treatment are referred directly to the librarian selector in charge of the collection. The conservation technician presents the option(s) for treatment and often makes the final decision following the librarian's consultation.

Most treatment decisions are made within the general priorities of expediency and function. For circulating materials, repair or rebinding is the institutional preference to enclosure. Consequently only low-use, very brittle or extremely damaged volumes are boxed. It is departmental policy to retain distinctive components (e.g., decorated covers, spine labels, endsheets) from original bindings when repairs are made. Special emphasis is given to maintaining nineteenth century cloth case bindings. Individual libraries/librarians do not receive preferential treatment, yet the Mendery serves some more than others due to the inherent needs of the collections.

While informal numerical quotas exist for work sent to the Mendery, the quantity of incoming work fluctuates widely from month to month. Baseline production quotas are set and monitored by the supervisor, who also prioritizes rush items or special projects. An average time requirement is identified for each standard procedure as a guide for the number of items which may be completed in a given period. Within this framework, each conservation technician is responsible for selecting and executing his/her workload. The intention is that each staff member work to meet or better his/her quantity of work. Statistics for work completed are kept on an item by item basis. Average turnaround time for repairs is two weeks. Items sent for bindery preparation are completed on a weekly basis. Pamphlet binding turnaround is 4–5 weeks, due to fluctuations and limitations of student staff. Rush items are completed the same day as possible. After treatment, cataloged items are routed to a separate department for labeling and/or barcodes.

The current Mendery staff includes three full-time conservation technicians and 20 hours per week of student staff. (There are no conservator positions at the Libraries). The technicians' training varies, reflecting the current evolution within the field. One staff member has 15 years of varied on the job experience and training within libraries. Another has 12 years on the job experience, extensive attendance at workshops, has been self-employed and holds an M.L.S. The newest member was hired following graduation from the North Bennet Street School program. The technicians hold classified (non-professional status) positions, non-union, which range in salary from $19–24,000 and $23–27,000 for the supervisory position. The staff works a single day shift, 40 hours per week. The Libraries offers partial funding and limited released time for professional development.

CURRENT TECHNIQUES

PAMPHLETS

Description: Stiff board binding for materials up to 1/2 inch thick. LBS binders used for standard sizes. Equivalent style binders are hand constructed from same materials for unusually proportioned sizes. All pamphlets are handsewn with linen thread. Single signatures are sewn through the fold. Multiple signature books are sewn to the binding through two or more sections when the original sewing is still strong. Multiple signature books with damaged sewing (and adequate inner margins) are sidesewn using machine drilled sewing holes.

Variations: Addition of a pocket for unbound accompanying material, use of pocket only inside a pamphlet binder to hold unbound texts or enclosures, use of purchased pockets for software, slides, microfiche, etc.

Time: 10 minutes.

Material costs: $2.40/average.

Quantity produced: 5500/year.

MUSIC SCORES

Description: Provides flat–opening binding for various music formats. LBS binders used for standard sized scores. Equivalent style binders are hand constructed for unusual proportioned sizes. Scores are handsewn into binders; parts are sewn into paper folders reinforced with a cloth spine. Multiple signature scores are sewn to the bind through two or more sections. Perfect binds are sidesewn. Single sheet parts are hinged into paper folders using Japanese tissue and paste. Unusual page formats are guarded with tissue and paste when necessary. Parts are housed in cloth or paper pockets custom constructed and mounted inside the back cover of the pamphlet binder.

Time: 30 minutes/average.

Material costs: $2.75/average.

Quantity produced: 600 scores, 700 parts/year.

BINDERY PREPARATION

Description: Preparation of textblock for case binding by library binder. Chosen when textblock is brittle, needs paper repair, or consolidation before binding. Textblock is removed from damaged case, spine is cleaned, new endsheets sewn on, spine rounded, backed, glued and lined with muslin, and then paper. PVA/methyl cellulose mixture throughout. Prepared textblock is shipped for binding.

Time: 1 hour.

Material costs: $0.25/average.

Quantity produced: 500/year.

CASE BINDING

Description: Chosen in lieu of library binding for books which, for myriad reasons, are better treated by hand (e.g., to allow extensive page repair, or to replace damaged sewing with supported/unsupported sewing through the fold). Page repair and/or resewing are performed as needed, new endsheets are sewn on, the book is rounded and backed, and the spine lined with muslin and paper. Perfect bindings are double–fan glued, and single–folio endsheets are tipped on. The textblock is case bound in full or quarter cloth. PVA/methyl cellulose mixture on the spine, PVA elsewhere.

Time: 1 hour.

Material costs: $1.00/average.

Quantity produced: 80/year.

POST BINDING

Description: Loose leaf binder for materials such as atlases and scrapbooks to which pages are to be added. Cloth covered, paper lined cover boards are made with a hinged flange along the binding edge. The flange is perforated to match the holing in the text pages, and the binding assembled with posts and screws of the approximate thickness of the book. For large or heavy volumes, cover perforations are reinforced with grommets. A cloth spine strip is added if desired. PVA used throughout.

Time: 1 hour.

Material costs: $2.50/average.

Quantity produced: 30/year.

COVER FOR COMB/SPIRAL BINDING

Description: Protects existing comb/spiral binding from damage in shelving and handling. "Book jacket" design: cloth cover with pocket at foredge slips over the covers of the text. Pockets can be added to contain accompanying software, etc. Covers are stiffened with panels of map folder stock. PVA throughout.

Time: Materials cost: Quantity produced. Comments:

Time: 30 minutes.
Material costs: $0.75/average.
Quantity produced: 10/year.
Comments. Used when comb/spiral format must be retained to allow flat opening for intended use of the materials (e.g., computer manuals, music scores, or items where significant images bleed across the inner margins). The cover is most effective when used on a book in new condition.

CLOTH SPINE REPAIR

Description: Used for case bindings where the only significant damage is to the spine covering and the use and condition of the item do not require the expense of library binding. Book is rebacked in buckram or bookcloth compatible with the rest of the binding. Generally a paper tube is adhered to the exposed spine, the repair cloth adhered to the tube and beneath the original cloth on the boards and pastedowns. When extant, the original spine is trimmed and used as a spine label. PVA/methyl cellulose mixture used throughout.
Time: 45 minutes.
Material costs: $0.20/average.
Quantity produced: 125/year.

BOARD REATTACHMENT

Description: Used for tightback leather bound volumes where the only significant damage is detached board(s). The flyleaf is removed, and linen hinges adhered to the shoulder of the book with a PVA/methyl cellulose mixture. The hinge is folded back on itself along the contour of the shoulder and adhered, on top of the pastedown, to the detached board. The board is seated as closely as possible to the original shoulder. The flyleaf is trimmed slightly at the spine edge and tipped into place. The exposed linen hinge may be covered with Japanese paper as a cosmetic consideration.
Time: 30 minutes.
Material costs: $0.15.
Quantity produced: 30/year.
Comments: Used primarily for low-use items.

CLOTH CASE REBACKING

Description: Repair of cloth case bindings with hinge or joint damage, retaining as many of the original binding components as possible. Textblock and flyleaves are separated from the case. Paper repair is done as necessary, including guarding flyleaves around the first and last signatures. If the cord supports are broken but the sewing is intact, new cords are pulled in, or the textblock is resewn as necessary. (A linen hinge is sewn around the first and last signatures). The spine is rounded, backed, and lined with a strip of thin linen or Japanese paper. A paper tube is adhered to the spine—one on, two off. The case is reconstructed using acrylic-colored linen or muslin. When available, the original spine is used as a label.
Variations: Corners of the boards may be repaired, and the exposed hinge covered with toned Japanese paper.
Time: 3 hours.
Material costs: $0.75.
Quantity produced: 40/year.
Comments: Usually chosen for nineteenth century items in damaged but original bindings, whose paper is relatively flexible, and for which library binding is absolutely inappropriate.

PAPER REPAIR

Description: Repair of tears, losses, guarding and hinging of pages. Standard repair method is Japanese tissue and paste. For cuts and tears on coated paper, document tape is used. Heatset tissue is also used in moisture-sensitive applications.
Time: 10 minutes.
Material costs: $0.05/tear.
Quantity produced: 1,000's/year.

TIP-INS/INDEXES

Description: Addition of small numbers of pages to a previously bound volume. Single leaves are tipped-in directly. Greater numbers of consecutive pages are tipped-in as is, sidesewn and tipped-in, or sewn as a section and hinged in, depending on the existing binding and how it must be used. The upper limit of pages that may be added to a volume is determined at the point the thickness of the added pages would disrupt the function of the binding.
Time: 10 minutes.
Material costs: $0.05.
Quantity produced: 100's/year.

PAGE REPLACEMENT

Description: Replacement of pages or portions of pages which have been mutilated. Photocopy replacement pages are made from copies of damaged items obtained through interlibrary loan. For text, copies are made on white or cream permanent paper. Color laser copies are used to replace color and many black and white illustrations. Besides excellent image resemblance, the color copies have a surface which looks similar to many coated papers. Replacement pages are tipped-in to original page stubs if they exist, otherwise they are tipped directly into book. Folded plates which are heavily damaged or badly repaired are often replaced with pieced photocopies.
Time: 10 minutes (excluding copying).
Material costs: $0.05/black and white copy, $0.85-1.55/color copies.
Quantity produced: 100's/ year.

POCKETS

Description: Enclosure to contain unbound plates, maps, and other additional material within a binding. Pockets of map folder stock or Tyvek (depending on the type of insert) are custom made and adhered inside the back cover of a case bound book. Design of pocket varies with use.
Time: 10 minutes.
Material costs: $0.15.
Quantity produced: 300/year.

ENCAPSULATION

Description: Enclosure for single leaves, plates, maps to be stored flat. Polyester film is cut to twice the finished size, folded, and machine sewn with nylon thread to form sleeves; corners are rounded. Untreated papers are sleeved with a buffered paper sheet.
Time: 15 minutes.
Material costs: $0.70/average.
Quantity produced: 500/year.
Comments: Zig-zag sewing works well as a means of seaming the sleeves. It is quick, "permanent," and less expensive than tape, heat sealers, or ultrasonic welding.

SLIPCASE

Description: Enclosure used for pre–boxed compact disks, videos, and tapes which must be stored with accompanying texts. Modified from Hedi Kyle's design: pressboard, "C"cloth, PVA. Double wall, rigid construction.
Time: 20 minutes.
Material costs: $0.50/average.
Quantity produced: 15/year.
Comments: Used primarily by the music library to store audio/visual materials with librettos and notes.

WRAPPER IN PORTFOLIO

Description: Enclosure for folio or bound materials 1/4 – 1/2 inch thick, which are non–circulating or low use. Four–flap wrapper of folder stock, mounted in cloth covered case with ties. PVA used throughout.
Time: 30 minutes.
Material costs: $1.50/average.
Quantity produced: 30/year.

FOUR–FLAP PORTFOLIO

Description: Enclosure for folio or rare materials 1/4 – 3/4 inches thick, when a very durable or formal enclosure is needed. Cloth covered; cloth, paper, or Tyvek lined; linen or cotton tape ties. PVA used throughout. Flap design varies with the need for protection or stiffness and the binder's inspiration. Wall boards are used for items more than 1/4 inch thick.
Time: 1.5 hours.
Material costs: $ 2.50/average.
Quantity produced: 115/year.

CLAMSHELL BOX

Description: Enclosure for folio material, damaged (unrepaired) bindings, and fragile bindings more than 3/4 inches thick. Drop spine design; board pieces are lined with paper and covered with bookcloth. Spaces between boards allow joints to be formed: tab extensions of the lining and covering materials are adhered to form corners. PVA throughout.
Variation: Lined with acrylic painted Tyvek for strength and to prevent staining of lining from crumbling book leather.
Time: 1 hour.
Material costs: $1.50/average.
Quantity produced: 110/year.
Comments: Often chosen in lieu of time consuming repair for low use items. Very durable in circulation, especially when covered with buckram.

Conservation Practice Carried Out on the Main Collection of the Library of The School of Library and Information Science at the University of Western Ontario

Vernon Estick, Conservation Officer
London, Ontario, Canada

INTRODUCTION

The School of Library and Information Science, a graduate school in Library Science, with a masters and doctorate program, is located in Elborn College at the University of Western Ontario, London, Ontario, Canada. The school along with its computer lab, media lab, and conservation lab has its own library and archives. The library consists of a special collection and main collection (a general academic research collection). The main collection consists of 60,000 volumes, which is periodicals and monographs, varied in age, binding structure, paper quality and size.

From the founding of the school in 1967, the binding/conservation area was set up by the writer to take care of the schools collections. It was decided that the serials would be sent to a commercial library binder to be bound and that all the repairs would be carried out within the school conservation lab. The main collection became the collection with the heavy demand for repairs. Damage was accelerated with the physical stress placed on materials as a result of the constant use of the collection due to the schools trimester system.

POLICY AND PROCEDURES OF REPAIR AND HOUSING MATERIALS

A. School librarian makes final decisions as to what must be repaired, weeded or diverted to storage.
B. Damaged materials are spotted at times by the circulation library assistant and directed to the librarian, who in turn consults with the conservator.
C. Materials newly acquired, that are in need of proper housing, or in need of repairs are referred directly to the conservator.

REPAIR AND HOUSING OF MATERIALS

The repair work is carried out by the conservator and student assistants from the school who are trained by the conservator. Materials completed of their repairs are returned to the processing section to be replaced in the collection.

CATEGORY OF MATERIALS

A. Monographs and serial materials leather bound from late 19th century to mid–20th century.
B. Monographs with hard cover, cloth bound or synthetic material, sewn or adhesive bound (perfect binding).
C. Monographs (paper back), sewn.
D. Monographs (paper back), adhesive bound (perfect binding).
E. Monographs hard cover, staple sewing structure through cloth support to hold the signature together.
F. Pamphlets flat stitched with staples or thread sewn.
G. Pamphlets saddle stitched with staples or thread sewn.
H. Monographs/pamphlets spiral bound (plastic or metal).

CURRENT TECHNIQUES

MONOGRAPHS WITH SEWN SIGNATURES HARD COVER IN A STATE OF DISREPAIR

Monographs with sewn signatures hard cover in a state of disrepair are removed from their covers, spine saturated with a poultice of methyl cellulose paste to remove paper and cloth lining.

After the removal of the old lining and cleaning of the glue from the spine, the spine is wiped with a solution of calcium hydroxide which acts as an acid neutralizer. Weak signatures at front and back of the volume are strengthened by repair and sewing if necessary. A double folio end paper is sewn on back and front of the volume which is then lined as follows:

Wheat paste is used as the adhesive, to attach lining support of a thin Japanese paper which is the primary lining material for the spine, followed by the headband. Airplane linen is used as the major support for lining up the spine, reinforced by mulberry Japanese paper. Depending on the thickness of the spine of the volume, additional paper may be used to give the spine further support.

If the old cover can be repaired and used, this is done by inserting a piece of airplane linen to reinforce the spine and joint of the covers and corners. An alternative method is to use new materials for the spine and corners, thereby converting the covers to a half-binding style, saving the original spine lettering, and using it as a label for the book.

MONOGRAPHS ADHESIVE BOUND (PERFECTING BINDING) HARD COVER

Monographs adhesive bound (perfecting binding) hard cover are given similar treatment as far as the retention of the original covers. The exception being: old adhesive and lining material is shaved away. Then the spine of the volume is roughed, glued with PVA and given single folio endpapers, round and backed and lined up with PVA (with the same type of lining-up procedures as the sewn monograph).

LEATHER BOUND BOOKS

Once the cleaning of the spine is completed, original endpapers which can be marbled, decorated or with illustrations are saved and repaired if necessary. The lining up procedure is carried out as previously mentioned for sewn monographs. New leather is used to reinforce the outer joint of the cover and corners, by lifting the old leather and inserting new leather pieces. Japanese paper is used to reinforce the inner joint. An alternative method is to use a strip of Japanese paper to reinforce both outer and inner joint and then colour the new paper with water colour or acrylic paint to blend in with the old material. If the covers cannot be reused, new covers are made, labels saved. If not, new lettering is carried out.

MONOGRAPHS: PAPER BACK (ADHESIVE BOUND) SINGLE SHEETS

Old adhesive is shaved away. PVA is used to reglue the spine, the book is endpapered, round and backed. PVA and lining materials as previously mentioned are used throughout the lining up process. The book is then bound in a hardcover buckram binding. The original paper covers are placed on a guard in front of the title page and after the last page the textblock. The original spine label is placed on the spine of the new binding.

MONOGRAPHS: PAPER BACK (WITH SOFT COVERS SEWN) SIGNATURES

The paper cover is removed, adhesive cleaned off, spine treated with calcium hydroxide, double endpapers sewn on to accommodate the original paper covers which are attached inside the volume in front of half title or title page and next to last page of the text block. The book is bound in a hardcover buckram binding, and the procedures similar to the single leaf adhesive bound book mentioned above, are carried out.

STAPLE BOUND VOLUMES (WITH HARD COVER)

One of these volumes turns up once in a while and poses some difficulty, as most of the time these books are stapled through a piece of fabric which is in a state of decay. These books have to be taken apart (pulled and resewn if they prove to be important). Resewing and binding procedures are carried out as needed, covers repaired and reattached or new covers made, etc.

PAMPHLETS

These come in standard sizes, 9 inches x 13 inches, 8.5 inches x 11 inches, and 9 inches x 6 inches, flat stitched, saddle stitched or spiral bound. Covers for housing these materials are generally made in the conservation lab by student assistants. Pamphlets that are flat stitched usually have their original binding support removed: staples, etc. A single sheet of heavy-duty acid free endpaper is placed front and back and stabbed with an awl approximately 1/8 inch from the spine with five holes along the length of the spine. The pamphlet is sewn with double linen thread through the endpaper stock on which a single folio endpaper is attached. The spine of the pamphlet is lined with thin Japanese paper followed with airplane linen. The cover is then attached. A computer printed label is made for the spine. The original cover of the pamphlet, if any, is fixed to the single sheet endpaper stock next to the title page by cutting away most of that sheet and using the part left on the pamphlet as guard.

SADDLE STITCHED PAMPHLETS

A double end paper is placed around the cover of these materials. A strip of airplane linen is attached to the outer sheet. The pamphlet is sewn with double linen thread through the centre of the fold, along sewing style, and then placed in an hard cover, usually a square spine rather than a curve spine. This allows the computer label to be placed on the spine, making it easier to read on the shelves.

SPIRAL BOUND MATERIALS

These materials usually have their binding support removed. Single sheet, heavy duty acid free endpaper stock is placed on front and back, sewn through in five or more places through the original holes and given the binding treatment of regular pamphlets. If the book is 3/4 inches or more thick, and has a projected research value over a long period, it is round and backed, lined up as per usual, and given a hardcover, full or half bound.

CONCLUSION

The treatment practice in the conservation lab is carried over into the conservation course taught in the school by the conservator. The procedures mentioned are part of a continued experimental process. Ideas for repairs are drawn from colleagues in the profession, my experience in archives and rare book conservation and the observation of binding structures throughout years of experience. I am open to new ideas and suggestions, and welcome further discussion on the subject.

Institutional Profile: University of Wisconsin–Madison

James C. Dast, Conservator
Madison, Wisconsin

The General Library System (GLS) consists of Memorial Library and 14 branch or "member" libraries. In theory, all of these libraries are served by the Collection Preservation Department, but in practice the degree of involvement depends on the knowledge, initiative, and concern of the head of each library, or of individual staff members. Ninety-five percent of our work is on the collections housed in Memorial Library where our facilities are located. In addition to the GLS there are three professional libraries: Law, Medicine, and Engineering, and numerous small departmental libraries and reading rooms to whom we are willing to provide assistance and advise if asked. Also located on the campus is the State Historical Society. They have their own conservation/preservation staff and the nature of their work is quite different from ours but there is a good deal of informal communication between us. It is reasonable to assume that there are about five million volumes on the Madison campus. We serve a University population of about 53,000.

Formal preservation activity began here in 1972 with the formation of the "Preservation of Library Materials Committee" which was quite active until the mid-1980's. In-house conservation-standard repair work began to be done when a conservator was hired in the fall of 1977. In mid-1978 a Collection Preservation Department was formed with three sections: conservation, microfilm, and book assessment. In 1980 and 1981 two Title II-C grants provided equipment and materials to develop and expand both the microfilm and conservation labs. In 1987 the conservation lab moved into remodeled space and the microfilm lab expanded into the vacated space. We anticipate further remodeling within the next five years to provide a state-of-the-art microfilm lab with expansion of conservation facilities back into the vacated microfilm space.

The first student repair technician was hired in 1981. Currently, under normal conditions, the conservation lab personnel consist of the conservator and as many students as can be recruited and trained. This has been as many as eight, including, if possible, a library school practicum student. In theory this results in the equivalent of two full time employees but in practice is often considerably less. Over the past five years we have been able to complete 2500 to 3000 repairs each year, 80% of those being rebackings and recasings. Average cost per repair last year was about $4.50 – $3.75 labor and $.75 materials. Occasionally special funding is provided to hire limited term employees for six months or less. Usually these are highly experienced former students who may have been doing repair work for three years or more.

Briefly, this is how the Collection Preservation Department operates vis-a-vis repair. Most material comes in after it has returned from circulating or otherwise identified as damaged, mutilated, or in some other way deficient. The first review is by the conservator who selects volumes appropriate for treatment in the conservation lab. Material is rejected for three reasons: better suited for treatment by the commercial bindery (it should be noted that while the Bindery Preparation Office is not part of the Collection Preservation Department we work closely together and have no significant philosophical differences), contents missing, and untreatable. Copies of missing contents are obtained by the book assessment office and repairs are then made by the conservation lab staff. Untreatable volumes are usually on brittle paper which is actually breaking out of the sewing structure. These go to the assessment office and into another decision-making loop: reformat, replace, discard, etc. Often a selector or bibliographer is involved at this point.

For books coming into the conservation lab the conservator specifies treatment. Color-coded treatment specification slips help in compiling monthly statistics and indicate priorities. The library school practicum student is trained to assist in this process. Technicians

are also instructed to check with the conservator if the treatment specified doesn't seem appropriate.

The bindery preparation office handles initial pamphlet binding of new material using the usual side- and through-fold stapling. Single section pamphlets in need of repair are often used as training pieces and usually these make up a student's initial experience with washing, deacidifying and Japanese paper mending.

There is no quota system as such. Certain items are given a high priority such as reference books and books going on reserve or scheduled to be exhibited.

The backlog in the lab is about 1500 volumes and it takes about 8 months to get from the back to the front of the line. Volumes waiting for treatment are recorded in the on-line circulation system and can be located easily if required for a user.

Labels, i.e., call numbers, if not present or complete after treatment are applied by the "marking room," a part of central technical processing. The lab provides new titles, if necessary, by hot-stamping or photocopy. We also apply "Tattletape" security system triggers and book pockets on a routine basis.

The staff, as mentioned above, consists of the conservator, student technicians and occasional LTE's, none of whom belong to any type of bargaining unit. Volunteers sometimes offer themselves and have provided useful service. We do not operate in shifts but once students are trained and have the conservator's confidence they are permitted to work anytime the library is open and many take advantage of this. With one exception, all workers past and present have been trained by the conservator, or occasionally by experienced students, or frequently, a combination of both. I have taught classes in basic bookbinding here since 1978 and have recruited many student technicians from my classes. There is an active book arts program in the University Art Department and for many of the students who work in the lab the skills learned are an important part of their academic training. Currently I require volunteers, library school practicum students, and students paid out of the regular budget to have previous bookcraft training - usually my class. Work-study students may be trained on-the-job since they can mean a significant savings for us in the long run. Students begin work in the lab doing rebackings, current pay is $4.65/hour. If they are interested and sufficiently skilled they may go on to recasings and a pay increase to $5.05. Again if skill and interest warrant they may be taught additional techniques and procedures. Some students become highly proficient with three to four thousand hours of experience. In general students learn to do an entire treatment procedure, and advance by learning more complex techniques. We don't have any division of labor or hyper-specialization.

The repair procedures used at Wisconsin were developed based on book restoration techniques learned at the Newberry Library, without reference to manuals or consultation with other binders. In one way this might seem like reinventing the wheel but it was useful because it forced an examination of every step of the process and a consideration of the preservation aspects in each. The primary goal was to extend the useful life of circulating volumes for as long as possible in original format and appearance, without compromising too seriously its future value as an artifact. A secondary goal was to develop techniques that met limited conservation standards, were easy to teach and learn, and did not require too wide a range of decision-making on the part of inexperienced technicians. There are now about 15,000 volumes in our stacks that have been rebacked or recased using these techniques or earlier variations. We get back, as needing further attention, six or eight a year. In all cases they have been re-repaired easily and quickly and returned to the stacks.

Some brief comments about technical procedures will finish this review. Spines of sew-through-folds text blocks are cleaned using multiple applications of methyl cellulose until all original linings and residual adhesive layers are removed. Other text blocks and non-soluble adhesive layers are treated on an ad-hoc basis. Using straight PVA, spines are lined with a layer of Sekishu paper and a layer of Rives lightweight. Rebackings* get a layer of Tyvek adhered across the spine and down onto the boards; recasings get an unbleached muslin hinge.

In recasings the cases may be repaired in a variety of ways depending on the nature of the damage and the original material. Flat back spines are never replaced as such. We do not use leather as a repair material, substituting cloth where necessary. We usually do not repair worn corners or board edges. In general it takes about one hour to do a rebacking and less then two hours to finish a recasing, in batches of three or four. We do not pre–cut any materials. There are five student work stations in the lab, all similarly equipped with tools color–coded to keep them from getting misplaced. Last year we did about 1000 rebackings and a similar number of recasings at a cost of approximately $.75 per volume.

*Rebacking: spine damage is external and repair is made working from outside with the covers closed. In recasing the case and the textblock are separated, new end sheet folios added and appropriate repairs made before the two are reassembled.